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ADDRESS

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That the lines had fallen to him in pleasant places, and that he had a goodly heritage, were subjects of congratulation with the Royal Psalmist of Israel, gratefully acknowledged and beautifully expressed in one of those out-pourings of the imagination which have come down to us in the pages of scripture, and whose hold upon the human affections is as powerful now as in the brightest days of the chosen people of God. And where is the American who does not feel that his country offers *goodly heritages* and *pleasant places*, and equally, too, to all who seek them, from the shores where our fathers first commenced their stern contest with nature, to that distant ocean which their descendants have reached by like trials and exertions, and which separate us from the islands and continent of Asia? And no where are higher rewards offered to human industry and enterprise, as well by the physical as by the moral and political advantages within our reach, than meet us at every step of our progress upon our own beautiful Peninsula. Around us is one of these PLEASANT PLACES, one of these GOODLY HERITAGES.

Few positions present more objects of agreeable contemplation than does the very spot where this assemblage is now convened, in peace and prosperity, not to celebrate a victory nor to extol a conqueror, but to commune together upon one of the most interesting subjects that can engage the human attention. Above us and below us are vast internal seas, unequaled upon the face of the globe, stretching away to other regions, distributing their bounties far and wide, and already bearing rich products, "corn as the sand of the sea," from the great granary of the North-West, to supply the wants of other portions of the world less favored by nature, or more harshly ruled by man.

The solitude of the forest, but yesterday so appalling from its very intensity, is now broken by the busy hum of human industry; and wind and steam have united their power, and have penetrated the most secluded recesses, in search of the objects and the rewards of energy and perseverance. But who so bold as to venture to set bounds to the productive extent of this great theatre of human exertion, or to foretell how far and how fast will be its progress? The future baffles all calculation, as the past has out-stripped all anticipation.

But our business is with the present, and our noble river is too prominent an object in the landscape of our "goodly heritage" to be passed by without remark. Uniting the upper lakes with lake Erie, it flows between them in a course of many miles, forming by its extension the small lake St. Clair, and presenting marked features of beauty and of magnitude, which arrest the attention of the most careless observer, and ministering, also, to the health and wants of our city, while ministering to the wants of a commerce already great, tho' born of yesterday, and destined to take its place, and ere long too, among the proudest monuments of human enterprise. With a current deep, broad and gentle, this great stream recalls the tribute of Denham to the Thames, far more appropriate to the American than to the English river:

> "Though deep yet clear, though gentle yet not dull,
> Strong without rage, without o'erflowing full."

Its depth is sufficient for all the vessels that navigate the lakes, while its broad expanse and the mighty volume of water it receives and pours

out, announce it as one of the great arteries of the earth, formed to maintain that circulation which is essential as well to the order of nature as to the communication and with it to the improvement and civilization of the human family. It possesses one peculiar and invaluable feature, it is subject to no periodical elevation nor depression. As it is to-day, so is it, with slight variations, at all times. The falling of the rain, and the melting of the snows, which elsewhere cause the streams to overflow their banks and to carry terror and distress in their impetuous course, are rendered harmless by the great reservoirs above us, which equalize the supply and the demand, and thus prevent some of the worst effects of the extremes of wet and dry seasons.

There is no need that I should recapitulate the rewards that our peninsula has already secured to those to whom the "lines" have fallen here, and that it continues to offer to all who seek comfort and independence from the life of the husbandman, under the most favorable circumstances of soil, of climate, and of position, that can excite the hopes of the emigrant or stimulate his exertions. And the progress and prosperity that mark our whole district of country, furnish the best commentary on its adaptation to the wants of society, and its capacity to provide for them easily and abundantly.

And with pride and gratification may we point to our own city, spread out before us, and which is becoming every day more worthy of its splendid natural situation, and of its claim to be one of the principal marts of business in all this extensive region. Its noble and capacious harbor, its intermediary position between the upper and the lower lakes, commanding the communication between them, its relation to the great wheat-growing portions of the State, of much of which it is the natural commercial depot; and the enterprise, capital and industry already accumulated and in active operation within its limits, sufficiently explain the causes of its present prosperity, and justify the most sanguine expectations of its future progress. All the signs of a prosperous community are around us, and yet how short the period since this very place was the advanced post of civilization, with scarcely a white man between here and the Pacific ocean—a secluded nook in the great primeval forest which extended across the continent, apparently impervious to human civilization, and sheltering in its recesses a fierce and intractable foe, who defended his heritage with constancy and courage, adding the cruelty of man to the obstacles of nature. But a few brief years have passed away—briefer and briefer they appear as time rolls on—since a war party of Indians issued from the forest, and placing themselves between the spot where this assemblage is now listening to the reminiscence of a by-gone incident, removed from us rather by the march of events than by the progress of time, and the inhabited portion of the town, marked their irruption by one of those deeds of blood which have made the history of our frontier a record of trials and sufferings, without a parallel in the progress of society. It is difficult for him who addresses you under circumstances so pleasant and prosperous, to realize that he heard the silence of the little village broken by the discharge of the Indian rifles, and to describe the alarm which prevailed, as the strength of the party was unknown, and the country was left defenceless, the troops having been sent away to take part in the operations on the Niagara frontier. But the energy of the inhabitants, few and exposed as they were—most of them the descendants of the original French settlers—supplied the place of numbers and experience, and the foe was driven from the settlement to his native haunts in the forest, but not without a conflict with one of the ranging parties, almost within hearing of the town; and there is a small remnant of these brave and faithful citizens, faithful at all times, soldiers in danger, whom I now see near me, making part of this great assemblage, and whom I then saw still nearer, making part of the patriotic band who feely offered their services in that hour of peril, and who will recollect the terror inspired by our return, as the scalp halloo was raised by some of our Indian hunters to indicate the success of the party, and broke the silence of the twilight with that terriffic sound, which, once heard is never forgotten, and which tells the tale of blood before the bleeding trophies and the victorious party present themselves. Whether the signal was from friend or foe, the helpless women and children, whose husbands and fathers had gone out to defend them, had no means of knowing. And in the terrible uncertainty, many of them embarked in canoes and fled for safety to the Canadian shore. Human nature is seldom destined to a more severe trial than such a state of doubt brings with it. Happily the return of their friends removed their apprehensions and secured their safety.

And such incidents are characteristic of frontier life; and when they shall have been hallowed by time and traditional associations, they will constitute the romance of Indian history, shewing the struggles and sufferings which our settlements have encountered in their long and painful march from the Rock of Plymouth and the beach of Jamestown to the shores of that distant ocean, where our fathers' flag and our own is now planted, and where American institutions and American enterprise are doing that deed of power and progress, whose consequences no man can contemplate without admiration.

Those who are curious in the statistics of our territorial progress, have given us calculations of its annual average rate; but without seeking precision in a subject scarcely admitting it, we know that though sometimes retarded and sometimes accelerated by peculiar circumstances, our march has been onward, from the landing of the forlorn

hope of a nation when they exchanged the perils of the sea for the greater perils that awaited them in the new world they were entering, down to our own day. *But old things are passing away,* and that moral energy which seems to be operating with renewed vigor in the great departments of life, intellectual and physical, and which has made our age emphatically the age of progress, is exerting its power on our capacity for expansion, and is now urging us forward in our great mission of *replenishing the earth and subduing it,* with a rapidity which finds no example in the history of our own or of any other country. From the steps of an infant we have assumed the pace of a giant, and are *walking through the land in the length of it and in the breadth of it,* with a rate of progress scarcely less unexpected to ourselves than astonishing to the rest of the world, who are regarding these new efforts with an interest rarely felt in the concerns of other nations, and which shows the mighty effects they may produce upon the destiny of mankind.

Already have we crossed the continent and established an empire upon the great shores of the ocean of the west, and have laid the foundations—and broadly and deeply too—of freedom, religion, and civilization, in regions acquired but yesterday, but which, till then, had been shut out from all improvement, held and governed as they were by indolence and ignorance. The impress of our race is now marked in ineffaceable characters, upon a vast outline, and the intermediate space will be filled up with an energy which foreshadows what we shall do, by what we have done. The mountain, the forest, the desert, present themselves to the indomitable emigrant, not as barriers which say to him "*Thus far shalt thou go, but no farther,*" but as obstacles to be overcome by efforts, more vigorously renewed as the difficulties are augmented. And along the line of a nation's march, amid fierce and hostile savages, over arid and naked, herbless and tree less plains and rugged, mountainous cliffs and defiles, man goes not alone, but woman, with her power to endure and her will to exert it, where her affections are engaged, accompanies him in his toilsome journey, to augment his joys, and by taking part in his sorrows, to lighten them. Broad, boundless almost, is the theatre offered to our exertions; gigantic in its features, like the continent we inhabit—far different from those regions of the old world, familiar to us from our infancy, and forever memorable as the scenes of mighty occurrences, connected with the origin and early progress of the human race. In those countries of the east, formerly the cradle and now the tomb of civilization, events were compressed within a narrow compass, and the limit ed space within which they passed seems utterly disproportioned to the extent they occupy in the history of the world, and to the influence they have exerted upon its destiny. The breadth of our own peninsula is greater than the direct distance from the land of Goshen, the residence of the children of Israel upon the Nile, to Palestine, the land of promise and the object of their migrations. And though their journey, by divine command, was circuitous, still the desert where they wandered is less in extent than several of the States of our Union, and ours among the number.

If the little bands of self-devoted exiles have become a great people, not less wonderful has been the increase of the means of human subsistence by which our own augmenting numbers have been supplied, and which is pouring its contributions into other and less favored regions of the globe. History tells us, that during the *starving time*—a period of famine, marked by that terrible epithet—the colonists of Jamestown were supplied with food from the bodies of their friends who had sunk under the calamities to which they had been exposed; and we are assured by tradition, that the granary of the Puritan fathers had at one time but five kernels of corn for each individual composing the expatriated colony, now become the millions of New England. But like the widow's meal, the scanty store, by the blessing of God, failed not.

I have said upon another occasion, but the circumstance is so striking and characteristic that I must repeat it here, that I have often conversed with a venerable relative who was a cotemporary of Peregrine White, the first child born to the pilgrims after their arrival on this continent. What an almost appalling idea does this simple fact present, of the progress and prospects of this vast Republican empire! But one life passed away between the first and the latest born of one of its great communities—between its infancy and its maturity—between its weakness, almost without hope, and its power, almost without limits—between its granary holding a few kernels of corn, and all its vast "store-houses" whose contents, like those of Pharaoh's, we may *leave numbering, for they are without number,* but which supply kingdoms with abundance, and send plenty where the harvest follows not the seed time, and where famine seeks to establish an empire, displaying its power by its victims and not by its subjects, by the dead and not by the living.

The first want of man is food, and his first care is to supply it. The rude modes of agriculture originally prevailing, have gradually given way to improved systems, combining sound theoretical principles with enlarged experience and observation. In t he the dispensation of nature, an increasing population always presses upon the means of subsistence, and if the supply does not augment with the demand, famine, and the terrible evils it brings in its train, will soon come to teach an ignorant, or oppressed, or improvident community, that it is the province of nature to minister to the wants of man by aiding his exertions, and not to minister to his indolence

by rendering them unnecessary. For wise purposes, no doubt, there are regions of exuberant fertility, where articles of food may be obtained without culture, as there are others of irreclaimable sterility, where no industry can conquer the obstacles of soil and climate, and render these stricken portions of the earth desirable residences for the human family. But in the natural, as in the moral world, the system of creation is one of compensations; good and evil go hand-in-hand together. Where man lives without exertion or industry, he lives without virtue or intelligence, and dies as indifferent to the future as he has been to the past. But where necessity, his real friend, though sometimes apparently a stern one, requires him to labor, he attains his true position, and fulfills his true destiny, by the proper employment of his faculties physical and moral, and by their nobler development which is sure to follow. Experience has shown that in the temperate zones of the earth, where industry is essential to subsistence, and where its rewards are ample, there only the human race have attained their true position, and have advanced in that career of intelligence and improvement marked out by the Creator, and the limits of which are known to Him alone. The great deeds, the great names, the great discoveries of the world are there, telling, in language not to be misunderstood, that there is an intimate connection between the progress of the human faculties, and the motives for their exertion.

To increase the quantity and improve the quality of agricultural products, suited to the subsistence of man, and with as little labor as is compatible with the object, should be the great effort of intelligent agriculturists. The progress of tillage is one of the most interesting chapters in the whole record of human society. Its origin is lost in the obscurity of time, and fable has usurped the place of authentic history. That the food of man, in his primitive state, was the spontaneous products of the earth, we are equally assured by scripture and by reason. It would be a curious subject of inquiry to ascertain, if the means were in our power, the various steps by which the acorn yielded its place to more palatable and succulent food, and finally to the cereal grains, and to bread, their best form, the great staple of human support. But the arts of destruction have always exerted so much more power over the imagination than those of preservation, that while battles, and battle fields, and conquerors, crowd every page of history till they have become almost as undistinguished as their victims, we are compelled to grope our way amid the mist of fable and tradition, in a vain search after the progress of the human intellect, in those discoveries and improvements, which make an essential part of civilization itself, and many of which must have been as early in their introduction as they have proved general in their use. The moralist and the philosopher have equally exposed the tendency and the folly of this love of military glory, but it is deeply enrooted in human nature, and operates as powerfully at this day as in the earliest times, when a plastic mythylogy gave to the victorious destroyer a niche, a statue, and an altar in the Pantheon of the gods.

It were a rash attempt to undertake to set limits to the productive power of the earth. It has been greatly increased by human knowledge and labor; and the discoveries of modern science, and especially of chemistry, have still further enlarged its sphere, and promise yet more beneficial results for the future. We know but little of the agriculture of the ancients. The scattered notices of it which have survived the lapse of time, are meagre and unsatisfactory, and certainly inspire but little respect for the practice or practical philosophy of the cultivators of the soil. The twelve yoke of oxen that Elisha left in the furrow, when called to a higher duty, furnish a very unfavorable commentary upon the quality of the Jewish stock, as well as upon the instruments of tillage, which required such a prodigious waste of animal labor.

For ages agriculture was stationary, and probably advanced but little from the time Virgil wrote his Georgics, till the last century. We are told by the best authority, that in Scotland, within one hundred years, "there was no rotation of crops; fallows were unknown except in one or two counties; the processes and implements of husbandry were alike wretched; the occupiers were in extreme poverty, and famines were every now and then occurring, that sometimes laid waste extensive districts." That "the returns were about three times the seed," and that so late as 1727 "a field of wheat of eight acres in the vicinity of Edinburgh, was considered so great a curiosity that it excited the attention of the whole neighborhood, and that numbers of persons came from a great distance to see it." And if such was the condition of one of the most enlightened countries of Europe, we may well believe, what indeed was the fact, that elsewhere the state of agriculture was equally deplorable and degrading, and well is it for the cause of humanity, that improved systems of tillage have been adopted, and the quantity of food greatly increased to meet the augmenting demand of an enlarged population, and thus spare us from famines like those which were the scourge of the world in ancient and in medieval times.

The causes which led to the rapid improvement of agriculture in portions of Europe, after it had been stationary for centuries, I shall not detain you by investigating. They are connected with the general progress of opinion, the melioration of political institutions, the wonderful advance in all the arts and sciences, and especially in those which relate to husbandry, and with the new spirit of intercourse which has brought the nations of the earth much closer together, and made them much more useful to one another than at any former period in their history.

Time and reason have banished, not all indeed, but many of the idle and superstitious notions which once prevailed, and which impeded both the theory and the practice of husbandry. Men trust more to their own observation, and to the the deductions of enlightened science, and less to those legacies of a dark period, which so long held in bondage the cultivators of the soil. The moon is left to perform the proper functions assigned to her by the Creator, in the firmament of Heaven, and is relieved from that supremacy over the vegetable kingdom, which made her the great calendar of the farmer, and gave to her various phases more power over the world of vegetation, than climate, soil, or cultivation.

Intimately connected with the increase of agricultural products, is the important question of their relative adaptation to the purposes of human subsistence; and both of these interesting objects of inquiry have recently engaged the attention of able and scientific observers, and the progress of the investigation has been equally honorable to them, and satisfactory to all who take an interest in this great department of human concern. Researches into the true principles of vegetable physiology have been pursued with admirable judgment and success, and have opened to us new and enlarged views of the structure and organization of plants, and of the supplies necessary to their growth and subsistence, as well as of those they furnish for the support of man.

And it is here that chemistry, especially by the improved processes of analysis, has shown itself the efficient handmaid of agriculture. It has taught us that the incombustible or inorganic portion of plants, the ashes, small indeed, not exceeeding two per cent in weight, but essential in the economy of vegetation, is derived from the soil, while the organic portion, the carbon, the hydrogen, the oxygen, and the nitrogen are imbibed by the roots and leaves, and conveyed by the proper vessels, in a manner unknown to us, to every part of the plant, and incorporated by assimilation with the new body into which they enter.

How far these inquiries may be extended, and to what hidden operations of nature they may ultimately conduct us in the progress of human knowledge, it were rash to undertake even to conjecture. That we have not reached the boundary which divides what may be known from what must be unknown, is evident from all that is daily passing around us in the world of matter. The limit may be far distant, and no doubt important developments will hereafter reward the zeal and industry of philosophical inquirers, and perhaps give us plain views, where we have now but imperfect glimpses, of Jehovah's kingdom. All this is, however, wisely concealed from us, that presumption and despondency may be equally repressed. But we may safely assume, that many of the final causes and of the secondary agencies also, which govern the vast creation of God, and preserve that wonderful harmony in his works by which the elements of destruction are forever pressing upon those of preservation, but can never pass the limits prescribed to them by Him who has assigned to each its proper functions in the economy of nature, and has made these hostile principles to contribute to universal order, if ever made known to us, will probably only be made known in another and a higher state of existence. In the whole range of the visible creation, there is no brighter spot than this for the eye of man to rest upon, nor one where the wisdom of the Creator is more wonderfully displayed. The original impulsive power, and the power of gravitation, are so combined as to retain the planetary bodies in their orbits, and to conduct them along their trackless paths in the heavens with unerring precision. There they have been and are, and there they will be till their great work is ended. And yet how admirable the adaptation by which these mighty masses are guided and controlled, and the agencies in operation balanced and restrained. The predominance of one would bring these worlds together, involving by their contact the utter destruction of our system, while that of the other would release them from the bonds of mutual dependence, and send them to wander in the boundless regions of space, where even the human imagination could not follow them in their endless career. And the same wisdom is displayed in the natural operations around us, and in the midst of which our life is passing. A change in the constituent principles of the atmosphere, an undue superiority of one of its elements, would render it unfit for respiration, and incapable of performing the functions assigned to it. Fire, water, animals, plants, the whole economy of nature indeed, would feel the effects of such a modification, and of the revolution it would bring with it. The ocean and the atmosphere are kept within their respective limits; rain and sunshine follow each other in beautiful succession, and the whole order of the universe is maintained by this combination of antagonistic principles, thus harmoniously blended, and made to work in unison together. It is not the wisdom of man, but the ordination of God which sets bounds to the fecundity of insect life, and spares us from inflictions like those which visited Egypt when her proud monarch hardened his heart against the divine command. What would avail human might if the barriers against indefinite multiplication were broken down, and if the locusts should *cover the face of the earth so that there should remain no green thing?* In such a warfare, powerless would be human strength against an enemy whose numbers would mock to scorn the efforts of man. And thus the hail, or the wind, or the rain, if not held in check by a superior power, would rule the ascendent, and scatter destruction over the fair face of nature. But a far mightier than they has set bounds to

their destroying agencies, and each furnishes its contribution of good to the great work of all.

The impressive language of reproof addressed by the Almighty to Job, may be addressed to every son of Adam. "Where wast thou when I laid the foundations of the earth? declare, if thou hast understanding." "When the morning stars sang together, and all the sons of God shouted for joy?" The human faculties are bewildered in the contemplation of the wonderful power of the Creator, and still the more it is made known to us by a knowledge of his works, by the knowledge that there are worlds of animated beings around us, forever invisible to the naked eye, but each enjoying his allotted share of happiness; while far beyond us, in the regions of space, are those shining orbs whose object, to our vision, is only to deck the sky with glittering points, but which reason and analogy equally teach us are destined to far nobler ends, to the performance of important functions in the great scheme of creation, and probably peopled with intelligent beings, perhaps better fitted than we are to comprehend these miracles of creative power; a power felt in the regions of illimitable space, equally inaccessible to human vision, and to the efforts of the human comprehension.

"We cannot go
Where universal love smiles not around,
Sustaining all yon orbs and all their suns;
From seeming evil still educing good,
And better thence again, and better still,
In infinite progression."

The researches of modern chemistry have been successfully directed to two objects of enquiry, equally essential to a just and rational view of the true theory and practice of Agriculture. One is the elements which furnish the proper nutriment to the animal system, and the other, the plants, in which this pabulum of life is most abundantly found. Experiments, skillfully directed and steadily pursued, have already conducted us far in this interesting field of investigation, and strange is it, that it has been but recently explored in the real spirit of inductive philosophy. Scarce a century has elapsed since much has been made known of the true structure of plants, and many important points of vegetable physiology, even among those most accessible to daily observation, are yet involved in doubt and dispute.—Chemistry has been far behind the sister sciences, and it is only with the commencement of the present century, that commences that era of its advancement, when the labors of analysis, and the principles of induction rescued it from the hands of the alchemysts, and have given it the dignity of a science, contributing not less to the comfort of man, than to a true knowledge of many of the most interesting operations of Nature.—And it is by no other process that we can expect to obtain just conceptions of the nature and properties of the undecomposed substances, which, in the present state of our knowledge, may be called elementary principles and by whose means all living organized bodies are constituted and perform their functions. The boldness, the blind rashness, rather, of man, leads him to reject the slow process of following nature, step by step, and adding fact after fact to his store of knowledge, and then combining these together, and deducing such general laws, as it may be given to him to develope and comprehend. For centuries the theory came first, and then facts were sought to support it. But though this scientific empiricism is not yet wholly banished, it is yielding to a more rational spirit of investigation, and the reward has been found in that wonderful advance of knowledge in the natural sciences, which has made the age in which we live, eminently a practical one. Our first business is with the operations of nature, and after that, with their causes and effects. And it is obvious that it is far easier to penetrate into the former than the latter, and that *how* the functions of organized matter go on, is a problem of easier solution than *why* they go on. The general process of vegetation meets us at every step of life, and observation and experience have revealed many of its principles. We know that seeds germinate, that the sap circulates, and that the body of the plant is gradually developed by assimilation, and we have ascertained many, both of the laws and of the organs, by which these operations are conducted, and it is in this great and useful field of enquiry, that our labors can be most successfully exerted. All beyond it is a subject of speculation; of deeply interesting speculation, indeed, in its pursuit, but too doubtful in its result to encourage us in the task of exploring it. What are the means by which the great operations of Nature are conducted, through the vast domain of creation, and by which the principle of vitality, animal and vegetable, is infused into organic matter, by which, in fact, the Almighty Will does its work: why, for example, there is a tendency in all bodies towards one another, agreeably to a law we have discovered and denominated gravitation, but whose mode of action we cannot even conjecture—these are enquiries which, in the present state of our knowledge, we have no encouragement to investigate. Man, and the little experiments he can make in the narrow circle that encompasses him, sink into utter insignificance before the overpowering considerations that force themselves upon us in the contemplation of these manifestations and modifications of Almighty Power. Silence becomes wisdom. But whatever revelations the future has in store for us, it needs none to tell us that, the clearer becomes our vision of the wonderful scheme of creation, the greater will be our admiration of the wisdom and goodness that designed it, and of the power that made and preserves it.

But we must return from this disgression to that branch of our subject more immediately before us. I have already said that practical chemistry had been investigating the proper nutriment of animal life, and the plants which most abundantly supply it, and that important discoveries had followed these investigations, peculiarly valuable to the farmer who desires to conduct his operations, not only profitably, but intelligibly. It is ascertained that among the edible plants there is a great difference in their capacity to provide for the subsistence of man. They yield the principles of nutriment in very different proportions, and this consideration is a most important one in the choice of their culture. Of the bulbous roots naturalized in our country, the potatoe is by far the most valuable, analysis showing that one-fourth part of it may be considered a nutrive matter. The carrot, the parsnip, the beet and the turnip are less valuable, but still important objects of cultivation.

But the family of the cereal grains is that which is best adapted to the use of man, as it is by far the richest in nutritive qualities, and has constitut d the principal article of human food among the civilized nations of the world Analytical chemistry thus comes to add its testimony to general experience, and to make known to us one of the causes of this preference. At the head of this family is wheat, whose introduction into Greece was rewarded by divine honors conferred on the benefactor. Like the horse and the ox, it is the universal companion of civilized man, and has accompanied him in his migrations around the globe. It possesses a greater proportion of the nutritive principle than either of its congenus, or than any other vegetable production known to us. Careful experiments have been made with a view to practical results, and tables prepared, showing the nutritive properties of plants used as food, either for man or for the domestic animals. It is a curious, as well as interesting subject

of e quiry, and one which should engage the attention of every intelligent farmer. It lies at the very foundation of agricultural improvement.

The knowledge we have gained of the food of plants, exhibits one of the happiest applications of chemistry to vegetable physiology, and its investigations have opened new views in that great department of creation, leading, with other recent discoveries, to the conclusion, that there is a striking analogy subsisting betwe-n the two living kingdoms of Nature, and that simplicity is no less an attribute than wisdom in the works of Almighty power. That some soils are more favorable than others to the production of plants, and that their growth may be stimulated by adventitious substances, are facts that experience must have taught in the very earliest stages of husbandry. But it was reserved for a late period, for our own indeed, to give us a reasonable insight into some of the principles of vegetable organization, which regulate the germination, the growth and the decay of plants, and which enable us to understand how we may best aid the operations of Nature. We know there are organs performing their assigned functions, common to all vegetation, and essential to its growth and developement. Having ascertained that plants require food, and that they possess proper organs to prep re it, and to convey it to its destined work, where it is incorporated, by some process inscrutable to us, into a new body, we have the way opened for an enquiry into the nature and properties of this nutrimental matter, and of the practical appl cation of the principles evolved to the purposes of the farmer. The functions of vegetable life are admirable and admirably performed, and are forever in ope ation, unchanged and successfully, upon a world of vegetation, which, in its vast extent and variety, and in the countless subjects it contains, beyond the faculties of man to conceive, is among the most wonderful displays of creative power. Within the range of personal vision, how vain the effort to conjecture even the number of plants that start into life and then disappear, to give place to their successors in this ceaseless round of creative organization. But who shall count, who shall even dare to imagine how many individuals compose that mighty mass of vegetation which covers the face of the earth, and penetrates far into the recesses of the sea? It is not given to man to enter even the threshold of such a work. It is before us and within our reach, but forever inaccessible to us By observation of the differences appreciable in the structure and properties of plants, botanists have succeeded in arranging them into separate classes, by which they are brought, in some measure, within our grasp. These classifications are, however, artificial, though founded on natural phenomena, and are designed to introduce order into the consideration of a vast subject, and thereby to facilitate our acquaintance with it. The roots, the body, the bark, and the leaves of plants, and the flowers and fruits in the season of fructification, are vegetable productions with which we are all familiar. Much of the internal structure, the wood, the pith, the sap, and the tubes are equally well known, and some of their functions have been long ascertained, or rather conjectured with reasonable certainty. But it is only recently that much progress has been made in this branch of natural history, and that we are beginning to understand, not indeed, the organic laws of vegetable life, but many of the functions of vegetable organization, and the processes by which the great work of production goes on.

The ascent and descent of the sap, analogous to the circulation of the blood in the human system, the vessels through which it passes, the functions of the leaves, resembling those of the lungs, by which the vital fluid is divided between two sets of vessels, one transpiratory to exhale its watery parts, and the other secretory to conduct the residue, after having undergone the necessary change, through the proper vessels to continue its prescribed operations in the economy of nature, the presence of extraneous matter, of silicious substances for example in the epidermis of plants. all these and other discoveries have enlarged the sphere of our knowledge, and have given us satisfactory conceptions, instead of vague conjectures, of many operations in the progress of vegetation. They promise yet brighter rewards for future exertions. The elaboration by plants of different substances contained in the sap, and possessed of various properties is truly a wonderful process. We have no conception how the several vessels select from the same materials the proper alimentary matter, and reject what is unfit, nor how these elements enter into the new body, and finally offer their services to man in a new form. Investigations into the cellular structure of plants, hold out the prospect of important accessions to our present knowledge of vegetable physiology, connected as they are with some of the most difficult questions concerning the organization and growth of vegetation. The cells, it is now conceded form the basis of all plants. Their minuteness and the rapidity of their development are equally beyond our comprehension, for it is estimated that they average but 1-500 part of an inch in diameter, giving more than one hundred millions to every cubic inch, and that in some of the fungi they are generated at the rate of fifty-six millions in a minute. Such estimates are far beyond the grasp of the human faculties, producing shadowy impressions, rather than adequate conceptions, but vaguely conjectural as they must be they are yet sufficient to satisfy us, that we move in a world of miracles, from the cradle to the grave, not one of which perhaps it is given to man fully to comprehend, and that the wonderful processes, by which this mass of vegetation exists and is maintained, are governed by laws, that lie far beyond the present boundary of our knowledge.—And these minute vesicles are membranous, each shut out from all others, and in plants of the lower order both absorbing and assimilating, while in those of superior structure, some of the cells absorb the nutriment, while others incorporate it into the body of the plant. The mind is lost in the effort to conceive the number of these microscopic agencies, even in a single herb, and yet they are the materials of which the whole vegetable creation is constructed. And each of these ministers of Almighty power invisible to the naked eye, has a kind of independent life, with its own proper functions, the whole forming together in some mode inscrutable to us, the life of the plant, and giving to it its ligneous substance, and thus while it is constituted a single body it contains within itself an infinite number of separate agents, efficiently but mysteriously operating together. Countless as the sands upon the sea shore, swept by the advancing and receding ti les, but ever barren and indestructible. But what are they to this wonderous multitude of living organs, hundreds of which a grain of sand would cover, swept by a tide that ebbs not, the onward progress of creative power, coming into existence and passing from it, to be forever replaced by kindred tribes, thus calling death from life and arresting destruction by never ending reproduction?

And thus is the earth covered with EVERY GREEN THING, and with this uniformity of structure all the diversified forms of vegetable organiz ation almost infinitely various are brought into being and made subservient to the purposes of man. Among these gifts of nature is our sugar maple, and elsewhere is the Caoutchouc tree yielding that most useful substance India rubber. The poppy, whose concrete juice is opium, an important article in our materia medica, the Ajuapar, whose sap furnishes an active poison, used to impregnate the rivers in order to obtain the fish; the BambusaGuaduas, which sometimes reaches the height of one hundred feet and whose stem is hol ow and divided by joints at short intervals, each of which contains pure limpid water invaluable to the traveler in hot and arid regions; and the cow tree, a remarkable production, which supplies a milky juice similar in in its properties to the milk of animals, and extensively used by the inhabitants, where this beneficient pro-

duction abounds. But the whole vegetable world offers no subject more worthy of contemplation, than the *Cocos mauritia*, a tree found in the tropical regions of South America. Its green shoots serve as aliment and it furnishes bread and wine, and oil, and fruit, and materials for clothing, mats, hats, and sails for ships, and for dwellings. A wonderful illustration of the power of nature to evolve substances so numereus and so various by the ordinary process of vegetation, from the same alimentary matter, which every where furnishes the nutriment of plants. The application of the principles deduced from the researches of scientific observers is not less important to the purposes of the practical farmer, than is the increased knowledge of the beautiful system of vegetable life to his intellectual advancement. That plants require proper food for their growth, and for the ultimate development of their properties, and that this food is secreted and sent on to its work by vessels variously constituted for the different functions they have to perform, and that this organization is not merely mechanical, operating by chemical affinities and laws but physiological, embracing a principle of vitality, low indeed in the scale of living being, but mighty in its extent; these facts, now well established, and daily opening more and more to us are intimately connected with the whole process of cultivation. 'Stones grow,' says Linnæus in his gradation of inorganic and organic forms, "plants grow and live, and animals grow, live, and feel." We know that where the nutrimental principle is most abundant, and judiciously applied, there it will produce a corresponding effect upon the body that imbibes it. We are thus brought to a consideration of the nature and condition of the soil, of the properties and preparation of the materials for manure, the most important part of practical agriculture. It is a subject, into which I have no time to enter I touch but the most general outline. The system of creation is one of life and death, following each other in never ending succession; a system of production, of destruction, and of reproduction. It were idle to speculate upon the final cause of this ordination of nature and worse than idle to endeavor to investigate the purposes of the Creator in this infinite multiplication of organic beings, performing certain assigned operations, and then disappearing to give place to their successors.—From the flower, that blooms but to die, to the giant of vegetation, the monument of the ages that have swept over it, from the insect, which sports its brief hour in the sun shine, fulfilling the duty imposed upon it and then vanishes from existence, to

> "that sea-beast
> Leviathan, which God of all his works
> Created hugest, that swim the ocean stream,"

and to man, the visible head of this wonderful creation, to whom was assigned "dominion" over it, all, all proclaim the universal decree, THAT AS THEY CAME FROM DUST THEY MUST RETURN TO DUST. When, we know not, but we know it will be soon, for brief is the interval, even when most extended, which separates us from this momentous change, ordained by Almighty wisdom. But the most superficial observation shows us, that a principle, looking to the greatest share of enjoyment by sentient beings, rational and irrational, compatible with their condition, and to its greatest diffusion, by the multiplication of individuals, pervades the system of nature; and a beautiful manifestation it is of the power and goodness of God. If death comes to all, it is but to give place to renewed life, thus fulfilling the great law of existence. We know but little, next to nothing indeed, of the true elements of matter. Those are termed such, which baffle all our efforts at decomposition. At the commencement of the present century there were twenty-nine of these elementary bodies, and now there are sixty-three, showing the great progress of practical chemistry. Their number changes with our chemical knowledge; but we must avoid the error of supposing that their enumeration makes known to us the true primordial substances, which constitute the basis of the material world. It is a knowledge we may never reach. But however this may be, and whatever is the principle of vegetable nutriment, experience shows that it is exhausted by the supplies it furnishes, and then becomes useless, and must be replaced by substances in which it abounds — And we have thus the theory of soil and manure, and every agricultural observer should keep it in view, in the preparation of his ground, in the application of fertilizing matter, and in the various operations, connected with the growth of the crop It is by combining observations together, that we give them their true value and learn the more general laws, that control the phenomena of nature.

I have already said that the field of agricultural improvement has no prescribed limits that human vision can rest upon, and we are thus encouraged to extend our researches with rational prospects of success. And as an example of the effect of cultivation, it is stated by Boussingault, that a beet seed weighing but the fraction of a grain, has produced a beet weighing one hundred and sixty-two thousand grains, or twenty-eight pounds. But though we know not how far we can go, we know where we cannot go. We know that we can increase the size and improve the properties of plants by judicious culture, but that we cannot so change their essential nature, as to confound the established order of creation, and to destroy the boundary that divides the various species by new families, called into existence by man. Reason, and analogy, and universal experience from the earliest periods, teach us that our efforts at melioration should be confined within their legitimate limits; the attempt to improve the qualities of existing plants and animals, and not to invade the province of the Creator, by rash endeavors to multiply, with the faculty of reproduction, the forms of matter, endowed by Him with life. If we have reason to be proud of the advance of modern knowledge, we have reason to be humble, when we see the presumption with which it is too often applied. Not content with the proofs of an intelligent Creative power, which accompany us from the cradle to the grave, and which revelation and experience equally announce, we are seeking with blind rashness to reject the true origin of this great scheme of Almighty wisdom, this union of mind and matter, and to find some kind of fortuitous creation, some shadowy plan of progression, by which the most imperfect organization gradually rises in the scale of being, and step by step, spontaneously and by its own inherent force, ultimately assumes the most perfect forms of animal life.

There is a tendency not to be misunderstood, towards a cold and heartless materialism in many of the physical investigations of the present day, and there is a tendency, equally obvious in moral investigations, to be carried away by new and strange doctrines, one of which teaches us, as its Hierophant announces in a work, captivating for its boldness and novelty, that all *distinction between physical and moral is annulled*, that "grades of mind, like forms of body, are mere stages of development," and that *there is no essential difference between man and beast.*

And unfortunately the restraining power of the Christian religion upon the hearts and minds of men has been weakened by a similar spirit of presumptuous research, neither directed by wisdom nor conducting to truth. From the great storehouse of German metaphysical theology, where dialectic dexterity has more votaries than a simple and earnest spirit of enquiry, strange words have issued, *rationalism* and *super-rationalism, naturalism and super-naturalism, super-natural rationalism and rational super-naturalism, transcendentalism*, and many a kindred weapon of controversy, well calculated to impose upon the human judgment and to lead captive the human imagination by an assumption of learning and by puerile logomachies: all these and similar verbal subtleties, worthy of the disciples of the Stagyrite, belong to the various schools of theology which convert the gospel of Jesus to their own views, rejecting the true scheme of salvation, or

accommodating it to the corrupt heart of man. The Christian religion becomes a myth or a fable, and its divine author a fanatic or an imposter, who healed the sick by interposing at a favorable crisis of the disorder, when nature had herself commenced the cure, and who raised the dead by calling them to life, at the very moment of recovery from the effect of a cataleptic attack, and whose other miracles were performed by similar coincidences, or not performed at all. And our faith is to be shaken in the life and death, and merits of the Saviour, and the hopes of his promises to the living and their consolation to the dying, are to be sacrificed to these dreams of a morbid imagination, which belong to a world of peculiar ideas, and not to our world of action, and which have no sympathy with human nature, and no prospect beyond the narrow boundary of physical existence.

Let no man delude himself with the notion that when he has once mastered, if master he can, these Shibboleths of a barren controversial theology, he is better fitted in head or in heart to study the history of the Redeemer's mission, or that these and other "great swelling words"—

'For all this tedious talk is but vain boast,
Or subtle shifts conviction to evade"—

have enabled him to gain one step forward in the path of Christian knowledge.

The human mind is strangely constituted; forever roaming in the fields of enquiry, it is too often disposed to push its investigations beyond the boundaries assigned to man, and to believe nothing it does not comprehend. It has been well said of the disciples of this school, that "to be defied to the face by any stiff-necked problem which this poor universe can produce, is a humiliation to which they are not accustomed to submit." As the nature and attributes of the Deity are beyond their understanding, His existence is beyond their belief. They belong to the class so well described by Pope:

"Who boldly take the high priori road,
And reason downward till they doubt of God."

A theory of "development," as it is called, not less bold than startling, has been advanced in a work recently published, and entitled "Vestiges of the Natural History of Creation," and which, according to an eminent Scotch Review, has been received with a "sudden run of favor," while an English Review of equal authority considers this book "the best adapted of all the productions of modern literature to give a right direction to the philosophical investigations of the highest subjects of human interest." This theory authoritatively announces that "the whole train of animated beings, from the simplest and oldest forms, up to the highest and most recent, are then to be regarded as a series of advances of the principle of development, which have depended upon external physical circumstances, to which the resulting animals are appropriate." And thus the *mysteries* of the universe are unfolded by the mystifications of a false philosophy, and men who cannot believe in a Creator, believe in such a creation as this, in spontaneous generation and in the transmutation of species. Verily, scepticism and credulity are very near neighbors in these mortal frames of ours, and the old Latin saw "Credo quia impossible est," I believe because it is impossible, is as true now as it was twenty centuries ago. We have to judge between the Redeemer of man, who tells us that *the very hairs of our head are all numbered*, and that *not a sparrow falls on the ground without the knowledge of our Heavenly Father*, and the Prophets and Neophytes of this new faith, who assert that "the creation of a lower animal is an inconceivably paltry exercise of Almighty power."

And we are called upon to believe that our progenitors were monkeys, and that our posterity will be angels, or something higher in the order of nature, by successive transformations, the result of "a creation by law," by which "organic life *presses in*," (or in other words creates itself) "*wherever it has room and encouragement and accommodates its forms to suit the circumstances*," (this is no less clear than satisfactory) and "a *superadequacy* in the measure of this *underadequacy*" *would enable a goose to give its progeny the body of a rat*, and thus "one species gave birth to another till the second highest gave birth to man." And we are also told that our horses were vast *Packy dermata* (names are things, said Mirabeau, and when they are not, they are too often their substitutes,) huge, half-formed, living monsters, stretching like the fallen Archangel of Milton, "many a rood," with three toes and no claws, eating herbs as strange as themselves, and that they will march steadily onward in the scale of being, perhaps till they become able, like the winged horse of the ancient mythology, to carry us through the fields of air, instead of the fields of earth, with improved powers and enlarged faculties, suited to a higher sphere of action; and that wheat was once a fern or a sea-weed, and will in time become an ambrosia-bearing plant, as far exceeding its present condition as it is now advanced beyond its original prototype, fitting food, it may be, for the human race, when it has taken its higher position in that ascending series of progression and development, to which it is destined by this consolitory system of psychology. Till that era arrives, thus foretold by this new faith and foreseen by these new prophets, our agriculture will be guided by the true principles of observation and induction, and without the vain and impious effort to break down the barriers established by the Creator, and to usurp His province in the government of creation.

Reason and revelation equally assure us, that the great first cause is every where, and always in operation either primarily and by its own agency, or secondarily and by the agency of laws it has established. And it is not given to man to comprehend where the one ends or the other begins, or how the system of causation commenced its work, or still goes onward in its task:

"Earth, on whose lap a thousand nations tread,
And Ocean brooding his prolific bed,
Night's changeful orbs, bright stars and silvery zones,
Where other worlds encircle other suns,
One mind inhabits, one diffusive soul
Wields the large limbs and mingles with the whole."

The fossil bones of antediluvian monsters in rocky strata, and their foot marks upon indurated clay, strange hieroglyphics upon the monuments of nature, written in a language which man is striving to decipher, have been resorted to in proof, or in illustration of this scheme of creation, equally contradicted by the Book of God's Word, and by the Book of his Works. There are far better "vestiges of creation" in His foot-marks around us, in His steps upon the ocean and the land, impressed upon the whole organization of Nature, than these researches, too often merely conjectural, into the remote condition of the globe, can furnish. They are interesting, as are all the facts connected with the natural history of the planet we inhabit, but worse than worthless, when used to shake our faith in the revelations of Christianity, or in the attributes of its divine founder.

I have presented for your consideration, for your co-operation, indeed, various suggestions connected with the advancement of agriculture; but far beyond these in influence and importance, is the advancement of the agriculturist; the education, sound, practical and enlarged, of that vast body of our youth, who form, and are to form, the farming interest of our country; an interest that embraces more than one half of our population, and a still greater proportion of the permanent influence to which our social and political institutions must look for support in these periods of their trial, which have heretofore come upon other nations; and have now come upon us. The cultivator of the soil is engaged in one of the noblest occupations that belong to the whole circle of human employment. *In replenishing the earth and subduing it, and in multiplying every herb-bearing seed, and every tree which is the fruit*

of a tree yielding seed, all of which were given to man "for meat, before he left his primitive residence, where God first planted him, He deals with organic life, with its production, its improvement, its multiplication with the means of subsistence for that great family of rational and responsible beings which "has dominion" over all that the earth brings forth, as well as *over every living thing that moveth upon it.* His existence does not pass in crowded cities, the works of man, surrounded with the physical and moral ills which a dense population is sure to bring with it. He walks abroad among the works of God, reading the great book of Nature, whose every page is filled with lessons of wisdom, written in characters that no man can misunderstand, *but the fool that saith in his heart, there is no God.*

The light that shines, the wind that blows, the rain that falls, the phenomena of nature, are the companions of his daily walks and works; not mere objects of curiosity or even of contemplation, indifferent or interesting, as he neglects or observes them, but ever active agents in the process of production, co-laborers with himself in the domain of nature, performing the functions assigned to them, "In seed time and harvest, and cold and heat, and summer and winter, and day and night," which we are told by Him who knoweth and who ordaineth it, *shall not cease while the earth remaineth.*

The work-shop of the farmer is not a narrow and heated room, shut out from light and air, but broad fields and an open sky are the witnesses of his labors, and it is not mere inert matter that he deals with, calling into exertion his mechanical powers only, but one of the great kingdoms of living nature, furnishing subjects of ceaseless observation and wonder to the highest intellect, and forever inviting the researches of man, as well by the enlarged views it presents of great natural operations, as by the effect of this increased knowledge upon the heart and the understanding, and by the rewards, which are sure to follow the exertions of the enlightened cultivator.

From the hyssop that springeth out of the wall to the cedar of Lebanon, from the lowliest plant that creeps into life, to the giant of the forest that rears its head above a sea of vegetation, resisting the winds of Heaven for centuries, there is a mighty mass of organized forms endowed with a principle of vitality, which proclaim the power of God, and invite the researches of man. Wondrous are its extent, its variety, the laws of its being, the purposes it fulfils, the mode of its production, its existence and its reproduction, and the admirable organization by which its functions are performed, and inorganic matter converted into the beautiful foliage, which covers the face of the earth, rejoicing the eye and the heart, and ministering to the wants of the sentient creation. And the life of the farmer passes in the midst of this great family of nature. It is his daily care to cultivate, to increase, to improve those branches of it which are most necessary for human comfort and subsistence; and it should be his pleasure, as it is his duty, to observe the processes of vegetable life, the habits of plants, and the laws regulating their organization, that he may know how to *make the earth bring forth by handfuls*, like the seven plenteous years of Egypt, and still meliorate his practice, as he extends his knowledge. Who does not see that here is scope enough for the most powerful intellect, the most enlarged understanding? The practical study of the works of creation, admitting the application of advanced science, as well as the highest powers of personal observation, and yet since the earliest period, indeed, since the acorn gave place to wheat as the principal article of subsistence, a delusion has been propagated, not universal indeed, for there are honorable exceptions, both in ancient and in modern days, but far too general, and so firmly maintained that even now it exerts a powerful influence, and is but slowly yielding to the intellectual progress, which marks the age in which we live. The Book of Ecclesiasticus, though excluded as apocryphal from the canon of scripture, is of ancient origin, and no doubt depicts truly the customs and opinions of the Jewish people. It ministers to this mischievous prejudice, and presents a melancholy picture of the intellectual condition of the Hebrew husbandman.

"How can he get wisdom, that holdeth the plow, and that glorieth in the goad; that driveth oxen, and is occupied in their labors, and whose talk is of bullocks?"

"He giveth his mind to make furrows, and is diligent to give the kine fodder."

And so because a man is brought by his daily occupation into contact with the world of nature around him, with organic life, animate and inanimate, the noblest works of the creator, it is asked emphatically "*How can he get wisdom,*" as though the best school for its acquisition were not an enlarged sphere of observation and reflection. It is not difficult to discover, in the progress of social and political institutions through the world, the true source of this deplorable error. Labor is dishonored and discredited when it brings degradation, legal or conventional, when the mark of contempt is upon the forehead of the laborer, and he feels, and all feel, that his place is considered the lowest in the scale of human employment. Thank God this state of things is unknown in our country, but it has existed and yet exists elsewhere, and its effects have extended beyond its immediate circle by the prejudice respecting the education of those engaged in agriculture, which it has created and fostered. Where the owner of the soil and the tiller of the soil form separate classes, divided by legal or social barriers, where the institutions of a country operate to accumulate land into masses, still augmenting as wealth increases, and repress all tendency to distribution by laws of primogeniture and by the other legal machinery, by which the strong are made stronger, and the weak weaker, where the many sow without reaping, and the few reap without sowing, who can wonder that the intellect is without cultivation, as industry is without encouragement? The wretched institutions of the middle ages, by which power and property were wrested from the mass of the people, from almost the whole people, indeed, and concentrated in the hands of the feudal nobility, and were guarded by the iron hand, and by the sterner rule of legal exactions and penalties, made part, an essential one, too, of the political condition of the European nations, and yet survive in full force in some of them, while in others they have yielded to the march of events, but in all, their impress is marked upon the constitution of society and exert a powerful influence upon the whole social system. And thus was degradation brought upon the laborer, and disgrace upon his occupation, and the impression was left as a legacy which time alone can remove; that he who tills the soil pursues an employment which, if not totally inconsistent with any advanced state of mental improvement is better without it, and should content himself with *holding the plough and talking of bullocks.*

"Strong as his ox, and ignorant as strong"

Many deep rooted prejudices have passed away in this country, and many others are yet destined to follow them. There is no miracle like that of old to turn the shadow backward, which marks the progress of these events. This prejudice against the necessity of education, of an enlarged education for the agricultural class of society, though it has not wholly disappeared, has waned before the light of knowledge, and will, ere long, be remembered but among the perversions of the human intellect. In no country on the face of the globe are there such motives as here, for the early diffusion of information among this great body of our fellow citizens. Land is open to all. There are no barriers which guard it against the approach of honest labor. He who does not acquire it, is prevented only by himself. He either does not desire to live the life of a farmer, or he is wanting in that industry and good conduct which open all the avenues of property to all who seek them. The relation of landlord and tenant in the cultivation of the soil, if not unknown, is so limited, that it creates no social castes divided by those

conditions, and almost necessarily antagonistic to each other. Our boundless public domain invites industry by the facility of acquisition, and rewards it by such advantages as were never before offered to those who seek a moderate competence with personal independence.

But there are still graver considerations which are connected with this subject, and which force themselves upon our attention with peculiar interest, at the present time I need not tell an American audience that the signs of the political atmosphere are portentous and alarming. The cloud, that was no bigger than a man's hand, like that seen by the Prophet from Mount Carmel, has overspread the heavens, and threatens to burst in ruin upon our country. I am dealing with great national facts, and not with questions of party —with the dangers that encompass us, and not with the causes that produced them. That the attachment to the Union is weakened, almost broken indeed, in large portions of the Confederation, he who runs may read in all that passes around him. Our day of trial is come, as theirs came to our fathers. If we meet it as they met it, in a spirit of patriotism and conciliation; we may strengthen their work by our own, and transmit our great and *goodly heritage*, our hope and the world's example, to those who are to follow us, the most magnificent legacy, after the religion of God, that was ever bequeathed by one generation to its successors, since human governments were instituted. And upon the intelligence and virtue of the country, and especially of the farming interest, which constitutes so large a portion of it, must we rely for that active and ardent patriotism, which is the more devoted the more perilous is the crisis; which looks to the claims of all while maintaining the rights of each, steadily seeking in the Constitution the true principles of action and forbearance, and tempering its judgment with that "brotherly affection," to use the language of Washington, without which it were idle to expect, to hope, indeed, that the bonds that unite us can retain us together. Withdraw this power of attraction, and our system will soon be broken up, leaving its members to wander in uncertain space, or to form new combinations with their own elements of destruction, and with a similar fate before them. God grant that we may be wise in time, and that for ages hereafter, the American farmers, from the St. Croix to the Pacific, wherever situated, or whatever the products of their agriculture, may come together, as we have come to-day, assembling, not upon battle grounds, but upon fields of husbandry, not to contend in blood for political supremacy, aided by improvements in the ART of death, but to compete together in a spirit of emulation and not of enmity, for the advancement of the ART of life, the production of human subsistence, that in the words of the Patriarch of Israel, "we may live and not die."

Important to Farmers.—The Hartford Times mentions a farmer who took up a fence after it had been standing fourteen years, and found some of the posts nearly sound, and others rotted off at the bottom. Looking for the cause, he discovered that the posts which had been inverted from the way they grew, were solid, and those which had been set as they grew were rotted off. This is certainly an incident worthy of being noted by farmers.

Fire Annihilator.—This instrument has been introduced from England into this country and a patent secured, It is said to extinguish fire instantly. It is portable, and can be carried by one man, and the cost is about $20.

EDITORIAL CORRESPONDENCE.

NOTES FROM ENGLAND.

NUMBER XVI.

COLCHESTER, July 10th, 1851.

To the Readers of the Farmer:

MR. MECHI'S FARM.—Well, I have at last emerged from the metropolis, and hope now to be more available as a medium of communication on subjects relating to the interests of agriculture.—Here I am in Colchester, fifty miles north-east from London, a city of twenty thousand, set upon a hill, longer, but not as handsome, as its namesake in Connecticut, where I was born.—But, some how or other, the name associated as it is, with the scenes of my childhood, has given it to me a sort of fictitious endearment, and it really seems the blessedest spot in all England.

But these things apart, I will proceed at once to enter upon the great object of my mission. I have just returned from a visit to the farm of Mr. Mechi, ten miles to the south-east from this place. It has been recommended to me as a model farm, and I visited it, not so much with the expectation of finding anything by which the farmers of Michigan can be profited, as to witness an instance of what is called "high farming" in England.—In this, however, I was disappointed, for the very first thing which arrested my attention, was an improvement which would be highly beneficial to any farmer any where, *who is a farmer*, or has any desire to be one.

It consisted in the peculiar structure of the stable floors, which were formed, not of plank, but of pieces of scantling, three inches square, (3 by 2½, or even 2 will do,) placed 1⅞ inches apart, and between them the manure drops through, while the cattle stand with as much ease and security as though they were on a plank floor.—There is of couse a vault underneath to receive it, where both the solid and the liquid manure are preserved, at the same time that the disagreeable and time consuming business of clearing stables, is saved.

This must certainly be an improvement of vast importance. There are three distinct advantages appertaining to it; the two mentioned above, and what is by no means of less consequence, the saving of the solid parts of the manure from loss, by exposure to the drenching rains. By the ordinary practice of throwing the manure into the open yard, not only is the liquid portion lost entirely, but all that part of the solid portion, which is capable of being readily dissolved, is washed away, while a much greater proportion is lost by evaporation, than would be in a vault.

And our farmers generally have no conception of the loss they sustain, in suffering their liquid manure to be wasted. Analysis proves it to be far richer in some of the most important elements of vegetable nutrition, than the solid portion, particularly in phosphates. A farmer in the neigh-

borhood of Bath, informed me that he had a cistern which held ten hogsheads, into which his liquid manure was all drained from the stable and from the dung heap, (which was in the yard) and that he had found it to be far better for his crops than the solid part.

But by this simple construction of the stable floor, (which certainly must be cheaper than a plank floor of the same thickness,) all parts of the manure may be saved, and thus a monstrous waste, (a waste of not less than one half of it) be prevented. The scantling, or narrow plank, are first framed together in sections, say four or five feet wide, and ten or twelve long, and then laid down upon the sleepers, so that they can readily be taken up, whenever it is desirable to remove the manure, the stable being so constructed, that it can be pitched into a cart right out of the vault, which need not be deep.

In these stables one of the most beautiful spectacles in the stock line, which I ever saw, presented itself. Here were fifty head of short horns (fifteen months old) in all the beautiful proportions which characterize the make of that far-famed breed, sleek and fat, ready for the butcher. They stood with perfect ease upon the floor above described, and were as clean as though kept in a pasture. I should add, that for sheep and hogs, the pieces are put only an inch and a quarter apart.

And now allow me to ask, if this is not an improvement which commends itself to the good sense of every farmer, as being worthy of attention, and adoption too? What a luxury it would be to your crops, if the liquid manure which is thrown away, were placed within reach of their hungry mouths?

I was gratified to learn a fact here, which sustains me in the position I have taken in the Farmer, in the face of no little opposition, in reference to the advantages of only once plowing for wheat over the old system of twice and thrice plowing. Observing a beautiful field of wheat, (some seventy acres, which will probably average forty bushels to the acre,) I inquired how many times the ground was plowed, and was told in reply, that it was plowed but once, and that one deep plowing was deemed as good or better than two or three plowings. And here be it remembered, they turn under no clover—not because they do not esteem it a good manure—but because stock is so valuable here, that they think they cannot afford it, other manures being cheaper. But if one deep plowing is deemed better than more, when the ground is bare, how much better still must it be when clover is turned under, and for the reasons which I have often suggested, and which I need not repeat here. Mr. M.'s farm has all been under-drained, the drains in the clay part of it being only twelve feet apart. And I have everywhere observed that lands which have been thoroughly under-drained, and upon which no stagnant water can stand, when plowed, are generally thrown into beds,the lands being so narrow, as to form beds not more than six or eight feet apart.

This farm attracts the more attention from the fact, that it was regarded as very poor land when Mr. M. took possession of it ten years ago, it being a part of the Tipler Heaths, which had been considered as scarcely worth cultivation, being very wet, stiff, hard land. It is now light, friable, and very productive.

The improvement has all been made by draining and manuring—the great dependence being stable manure, husbanded as above described, although resort, to some extent, has been had to artificial manures. Deep plowing, or rather subsoil plowing, has also contributed to the auspicious result. Eighteen acres of the farm have this season been spaded and mattocked up, to the depth of eighteen inches, which could not have been done, if the laboring classes here, received half what they do in our country, their wages being only eight dollars a month, and find themselves. Yes, board and clothe themselves and families at eight dollars per month, in a country where all sorts of provisions are twice as high as in the United States—think of that!

I confess I have no patience when speaking upon this subject. It is the shame of England, that purely through the operation of her form of government, a comparatively small portion of her people are possessed of so much wealth, that they actually do not know what to do with it, while the great mass of her population are crawling about at their feet in poverty and want—and it is equally the glory of our country, that intelligence, enterprise, comfort and enjoyment, pervade every class of society, and that no one is so low as not to be animated and nerved with the hope of rising to competence, and even to wealth; or, if there be such instances, they are rare, and to be ascribed to some defect in the organism of the character, rather than to the operation of the government.

There is a great curiosity upon this farm; I was taken to what seemed a very extraordinary spring; there was a box two or three feet square, into which the water poured through a pipe six inches in diameter, the volume of water which rushed through, being of that size. Taking a tumbler which was handed me, I drank feely of the water, and purer, sweeter, and colder water I scarce ever tasted. That stream I was then informed, was simply the outlet of a drain, which had been dug eight years before, through a swale, which extended back some fifty rods, the drain being eleven feet in depth at the upper end. The swale and the land on each side of it, for a considerable distance, became immediately dry, and for the whole eight years, that stream had been running, I was assured, without intermission, just as I saw it.

In his barn, Mr. M. has a small steam engine, which threshes, cleans and grinds the grain, chops straw, pumps water, and turns the grindstone,and

in the winter, the steam, when no longer wanted, for any of these purposes, is conducted off under kettles so as to cook the food for his stock.

This is high farming in England, or an epitome of it. Of course, there are things about it which our people cannot adopt. But it is an excellent pattern for them to have before their eyes. Nothing stands so much in the way of the prosperity of our farmers, as the parsimonious spirit which most of them are in the habit of exercising towards their land, as though the principle of keeping what they have got, and getting what they can, were the true one for their interest. Hence how grudgingly they make any returns to the soil for what they have received, as though all it received back at their hands, was so much loss to them. What ingratitude to mother earth! What vandalism! In her kindness she never withholds nutriment to the countless offspring which hang upon her breast, so long as she has it to give;—but there are persons so unreasonable as to expect it, and to cry "give, give," while they withhold from her the necessary food to enable her to do so. This is vandalism with a vengeance.

But such persons are blind and cannot see.—Here is perhaps a next door neighbor to them, who is in the habit of making moderate returns to the earth for what he receives, and see how she pours her treasures into his lap! But they do not understand it, although everything is plain before their eyes, and seem struck with a sort of fatuity which incapacitates them for any such exercise of their faculties. One thing they know, namely, that their neighbor is prosperous, whereas they are eternally in the back ground, and eternally wondering why it is so, and cursing the stars which preside over, and shed their baleful influence upon their fate. Poor creatures! they are to be pitied surely! But I must close.

Yours, &c.,,

W. Isham.

From the American Agriculturist.

SALT, URINE, AND LIME.

John Rudolph Glauber, whose name deserves to be written in letters of gold, among many other useful experiments on various kinds of salts, relative to their fertilising properties, found, that no manure of the kind had such power in tillage, as sea salt calcined in a lime mixture.—His prescription is as follows:

To every 400 pounds of air-slacked lime, add 100 pounds of common salt; temper these together with urine, to a stiff mortar, which, make into small oblong rolls; when sufficiently dried, make a layer of wood, (or coal,) then a layer of these rolls, and so on till the quantity is used up; which set fire to, and let the whole burn out, taking care that no rain nor wet get to these rolls before burned. After calcination, reduce these rolls to a fine powder, and let it lie half a year, in a dry place, often turning the heap in order to expose it to the air.

Applied to a soil of medium quality, at the rate of 500 or 600 pounds to an acre, this mixture is stated to form a most powerful manure for wheat, which may be sown with the seed.—Besides, it will destroy every insect and worm, and neutralise the poisonous acids in the soil.

Plastering Corn.—I noticed in the July No. that Friend "A. P. Y." rather complained of Wolverine because he did not specify the manner in which he plastered corn, I deemed it nonessential, as I have used it both ways with good success.

Wolverine.

AGRICULTURAL GEOLOGY—No. 10.

Intense heat expels the carbonic acid from the carbonate of lime. Oxyd rapidly and largely absorbs water. It then becomes the hydrate of lime, as the result of slacking. The water absorbed by this process becomes solid, more so than ice. It has the same solidity of the lime itself, as it is a part of it in chemical combination. The water, in changing from a liquid to a solid gives up its latent heat, then becoming sensible heat, as is familiar to every child, from witnessing the slacking of lime while passing the streets.—The changing of latent to sensible heat, as manifested by the operation of slacking lime, familiar to every one, arises from a sort of fundamental principle in chemical science. This principle furnishes one of the most important items of knowledge in the whole range of science, or possible for any human being to possess—the expansive power of heat. It explains thousands upon thousands of interestng operations, constantly going on before our eyes, alike under divine and human agency, both in nature and the arts. It can also be as readily learnt by the child of five years as by the man of fifty.

The oxyd of calcium and the hydrate of lime both possess strong alkaline powers. All alkalies have a strong tendency to combine with acids—producing neutral salts. Nitric acid (aquafortis) and caustic potash, each powerfully corrosive; combine with each other readily, rapidly, and intimately, producing saltpetre, having little or no corrosive power. Muriatic acid and soda, also corrosive in a separate state, readily enter into a chemical combination, and produce common salt, an indispensable article upon every table. It is not uncommon to have life sacrificed to an ignorance of the relative powers of acids and alkalines, not to mention stains and other injuries upon garments and other articles, with the daily use by every housekeeper of the relations of these two important agents in domestic economy.

As lime, an alkaline earth, is far more abundant than potash, soda or ammonia, the three principal alkalies, farmers, mechanics, and housekeepers, can use that for its alkaline powers to far greater advantage in many cases than either of the pure alkalines. As the alkaline power in this abundant element of our globe destroys or

neutralizes acids, both of natural and artificial production, farmers can use it for changing acids in numerous plants into salts, and probably powerful fertilizers, and housekeepers can use it for cleaning vessels, becoming acid by use in domestic economy, and in very numerous cases greatly to their own convenience, and not unlikely to the pleasing of their husbands.

EXPERIMENT.—Place a drop of some strong acid upon a piece of black broadcloth, and a red stain will be the result. Cover the stained cloth with some alkali and the color will be restored.—Dozens of similar experiments may follow.

For the Michigan Farmer.

RECEIPTS.

To make Black Oil.—One pint linseed oil, 2 oz. Barbadoes tar, 2 oz. alcohol, 2 oz. spirits turpentine, ½ oz. oil fir, 1 oz. oil vitriol. Add the vitriol last—leave the bottle uncorked 3 hours.—The above oil I deem equal if not superior to G. W. Merchant's Gargling Oil for wounds on horses, for kicks, corks, saddle galls, scratches and all flesh wounds—for cuts, burns, bruises, sprains, rheumatism, &c., &c. The above is cheap, and ought to be in the hands of every family; the cost will not exceed fifty cents.

Security against Poison.—Hundreds of lives might have been saved by the knowledge of this recipe. A large teaspoonful of mustard mixed in a tumbler of warm water, and swallowed as soon as possible, acts as an instantaneous emetic, sufficiently powerful to remove all that is lodged in the stomach.

Dysentery and Bowel Complaint.—The Baltimore Patriot publishes the following receipt for these distressing complaints, and strongly recommends a trial of it:

One pint of clean oats, to be browned the same as coffee, but not to be ground, put in a clean vessel, with two quarts of water, then simmered over the fire until reduced to one quart, when cold decant it off. Dose for a grown person, a common sized tumbler, sweetened with loaf sugar, but no milk or cream. Three tumblers in almost all cases will afford relief.

Cement for household use.—Take new milk, ½ pint, curdle with sharp vinegar; separate the whey and mix with the curd, the whites of five eggs, beat well; add fine quick lime, and mix till you have a ductile paste or putty. It will stop cracks, and is fire and water proof.

WOLVERINE.

Mr. M. Atmore of Battle Creek, says, that he folds his flock, 50 sheep and 30 lambs, on his summer fallow every night, regularly. He says it is practiced in England, and is a powerful means of improving light sandy soils.

He takes four hurdles, made like single panels of a common board fence, except that mortices are made through the posts for the ends of the boards. Foot pieces 4 feet long are put on the bottom ends of the posts, and rollers on the ends of these, by which means they are moved about. The sheep are folded on a new spot every night, and Mr. A. says they soon acquire the habit of going into the fold, by enticing them in a few times with some salt; and in this way he sees his sheep twice a day, and if any are sick it is early known, and they are in a place to be conveniently attended to. C. B.

Educational Department.

For the Michigan Farmer.

A CHAPTER ON SCHOOL HOUSES.

MR. EDITOR—I observe with pleasure, that a portion of the Farmer is very properly devoted to educational purposes; and as the condition of our schoolhouses calls as loudly for reform as anything else connected with the education of the rising generation, I propose giving you a few thoughts upon this subject. While a laudable zeal and anxiety is manifested, in selecting pleasant and healthy sites, whereon to build our dwelling houses, and every convenience and comfort studied in erecting the same, a reckless disregard for all these things is shown in building our school houses. I trust I shall not be considered censorious while I point out some of the defects in constructing school-houses, and suggest some alterations and improvements. First, let us glance at the actual condition of full seven-tenths of the school houses in the country. We usually find them located at the junction of roads, near some unhealthy swamp or marsh, or on the summit of a bleak, barren hill. The house is constructed upon the most economical and penurious principle, being too low between joints, the writing desks too high above the seats, the seats too high from the floor, frequently without a back, and where these appendages do exist, they are so high as to support the head, instead of the back. The stove is perched upon a platform, elevated from 6 to 10 inches, thereby precluding the possibility of warming the lower stratum of air; the windows are so constructed as not to be ventillated from above; the whole interior of the house presenting a dingy, gloomy aspect, and to complete the picture, a load of green wood is dumped into the mud or snow, to add to the comfort of the luckless prisoners, who are immured in this apology of a schoolhouse.

This is no fancy sketch, but a faint speeimen of what the writer in common with others, has experienced. What wonder that children have such an aversion to going to school! What wonder that they make so little progress in their studies while there! And when we reflect upon the influence that early associations and impressions have upon the youthful mind, what wonder that we find so many looking upon the dark side of

things, and constantly ruminating upon treasons, stratagems, and dark designs! The fact is, the school-house, should be a little palace, and the scenery about it a little paradise; everything about it should be attracting and inviting, presenting as many pleasing associations as possible, so as to refine the tastes, and exalt the sensibilities; the sites should be pleasant and healthy ones, the house should be at least 10 feet between joints, the windows placed as high as possible, and only the upper sash movable. The seats and desks, adapted to the size of the scholars, every seat having a back, and a writing desk so low that the writer's arm may hang in a natural position by his side. The stove should not be elevated more than from 4 to 6 inches from the floor, and the wood should be dry and snugly corded up, or, what is better, packed away under shelter. The importance of properly ventillating and warming our school-houses, is so intimately connected with the comfort and health of the scholar, that I cannot forbear suggesting to districts, the propriety of considering this matter at their next annual meetings.—Where the windows are so constructed as to ventillate from above, the stops should be cut out, so as to drop the window at least two inches, and there they should remain, except in severe storms. Those useless platforms under the stoves should be removed, and a hearth constructed, level with the floor; and if the legs of the stove be over 6 inches long, they should be set into the hearth so as not to bring the bottom of the stove over that distance from the plane of the floor. Were these simple arrangements made, we should not hear scholars constantly complaining of cold feet (they never complain of cold heads) nor fainting sickness. The writer had an opportunity while visiting the various schools in this town during the past winter, to observe the difference in the condition of these schools, where the houses were properly ventillated, and those that were not.

In one school house particularly, was this difference very marked. This school consisted of upwards of 50 scholars, crowded together in a small unventillated room, about 24 by 26 feet, and 7 ft. from the floor to the ceiling. A drowsy, listless inactivity pervaded the whole school; the reading and recitations were scarcely audible, notwithstanding the teacher constantly urged his classes to "talk up." When the writer made an effort to speak, he found it was with great difficulty to do so, and suspecting the reason, (the rarity of the air) stepped to a window, lowered it about 4 inches, and let in the pure pabulum of life; the effect was instantaneous; new life and animation seemed to be diffused through the school room, and there was no more occasion to urge the scholars to "talk up." "Go thou and do likewise."

A PEDAGOGUE.

Plymouth, Aug. 20th, 1851.

A rich soil is always much warmer than a poor soil; the black vegetable matter, absorbing and retaining the heat.

Ladies' Department.

☞ We are obliged to curtail the *Ladies' Department* this month, for reasons which they will readily perceive.—C.B.

For the Michigan Farmer.

TO YOUNG LADIES AND MISSES AT HOME.

NUMBER FOUR.

We live in the West, and have not the wealth that some of our Eastern neighbors possess. It would, therefore, be preposterous for as to think of employing cooks, porters and maids, etc's., belonging to some of their establishments. We already ape their customs and habits beyond our means. It does not become us to sit and fold our hands, or parade the streets, when, perhaps, there is not a morsel of wholesome food in the house, and no one to cook it. A well-bred lady will not leave her house thus.

Those of us who cannot employ assistants, are expected to keep the house in order ourselves; and there is not a dwelling, however poor and small, which may not be rendered cheerful by the labors and innumerable devices of our own sex. I am thinking of an old adage, "it is never too late to reform." If then, cleanliness and order are unfamiliar to any of us, and our mothers have allowed us to idle our time to no purpose, we can easily rid ourselves of the consequent lassitude, by setting a better example for the little misses to follow. Look now, and see how many windows need washing, and if there are any old hats or tattered garments stuffed in them, take them all away, and if you cannot afford new glass, paste clean paper on the sash as a substitute, and you will find that you have made them appear much better. Keep your baskets and boxes clean also. If the latter are soiled, it requires but little time to cover them anew. See that the spoons and knives are brightened, and the candlesticks cleaned, and the brass work polished.

Go to the sleeping rooms and see how many garments are scattered about the floor, whether there is a supply of water, soap, and towels, (they should never be wanting) any decent combs and brushes, and in each room a cushion of pins—whether there is pure air admitted, or any convenience lacking, which you can furnish by economy and industry. You, my dear Misses, can assist in these labors, and also do a great many other things besides what I have mentioned, to make the rooms comfortable. Yes, I have just thought about "the books;" you can keep them arranged nicely, and if there are any borrowed ones, I would cover them, so that you may return them unsoiled. It is wrong to soil books any time, and particularly those which belong to other people. And now try and think what else you can do to help your mothers and sisters.

KATE R***.

MICHIGAN FARMER.

Warren Isham, Editor.

DETROIT, OCTOBER 1851.

Editorial Correspondence.

NOTES FROM ENGLAND

NUMBER XVII.

WHEAT GROWING, STOCK RAISING, &c.

YPSWICH, Suffolk, July 12, '51.

Near this place, (which contains thirty thousand inhabitants,) I have found a Mr. Lacy, who has a farm of about three hundred acres, which he has brought up from a low to a high state of cultivation, and from whom I have derived much information.

About the first thing which engaged my attention was his wheat hoe, an implement used to cut out the weeds between the rows of drilled wheat, and drawn by one horse. The rows are only eight inches apart, and the implement is wide enough to hoe, say a dozen rows at a time. Does it seem impossible that it should perform such an office, without interfering with the wheat? So it seemed to me, but Mr. L. says it works to perfection, and he regards it as one of the most useful implements he has. It is on this wise that the thing is made to work. The hoes are all connected with one another, and connected with one of the hoes, is a handle, which projects back, there being some intermediate fixings, and this handle is held by the man who follows the implement, and who, keeping his eye on the hoe with which it is connected, guides it by means of the handle, so as to cut up the weeds within an inch of the plant without disturbing it, and the hoes being all connected, in guiding one right, he guides the whole. The implement has to be made, of course, to correspond with the drill.

There has been considerable experiment in dibbling in England; that is, in planting wheat so as to stand in rows both ways, and a machine has recently been got up for the purpose, but it has not yet been sufficiently tested to prove its capacity to perform. The dibbling, so far as it has been practiced, has been done by hand, one man going along to punch the holes, and another, or what is more likely, a woman, following to drop the seed; an operation which can only be done in a country where the laborers are starved. Mr. L. said the yield was considerably more, but he ascribed it to the fact, that the two persons who punched the holes and dropped the seed, trod the surface of the ground solid. If this be so a lesson may be drawn from it in favor of putting a heavy roller upon our wheat fields. But no roller, however heavy, can lay the surface as solid as the treading of two persons as above.

I asked him what advantage he supposed the drill system possessed over the old method of sowing broadcast. He said it had been so long since broadcast sowing had been practised in the region where he lived, that he could hardly tell, but it was generally understood that drilling was far the most advantageous.

I asked him how many times he plowed for wheat, to which he replied, "*but once.*" I told him that most of our farmers had been in the habit of thinking, that they could not raise a wheat crop without plowing two or three times. He laughed and said they used to do so here before the era of improvement commenced, and there were some dark corners in England where they had not got out of it yet. The summer-fallowing system was formerly in vogue throughout England, and it was still in vogue, as well as broadcast sowing, in those parts of England where they were fifty years behind the rest of the country in improvement.

I asked him how deep he plowed. He said the portion of his farm which had a yellow sand for a subsoil, he did not ordinarily plow more than seven or eight inches, but once in four years, went about two inches deeper, as in that length of time, there would form a sort of hard pan flooring, right under where the plow was in the habit of passing, and his crops were much more likely to be affected with drouth in consequence. He, therefore, let his plow in about an ich below this crust, once in four years. The only way in which the hard pan, thus formed, could operate to aggravate the effect of drouth, would be to prevent the water ascending from below, by capilliary attraction. His clay and loam lands, after being drained, he subsoils to very great advantage.

We often hear it said in America that English Agriculture has been renovated by the introduction of root crops. But this conveys no adequate idea of the matter. The root crops are excellent to enter into a system of rotation, from the fact that they draw but lightly upon some of the elements which enter most largely into the composition of the grain crops, so that the land almost has the advantage of rest, to allow an accumulation of those elements by continued decomposition, which enter most fully into the organization of grains—at the same time that it is not left naked. The tops, too, of most roots, draw very largely upon the elements of the atmosphere.

Thus much is to be set down to the credit of root crops *directly.* But *indirectly,* they have done quite as much for English agriculture, in connection with other things, viz: by enabling the farmers to keep more stock, and thus increase the amount of their manures. In this manner Mr. L. has more than doubled the product of his land in ten years. In fattening his stock, he gives oil-cake with roots, which makes the richest of all barnyard manures. He feeds about thirty tons of oil-cake annually, which costs about thirty

five dollars per ton, and the additional weight of mutton and beef which the oil cake makes, he said, fully paid for it; so that he thereby obtains a large stock of the richest kind of manure without any outlay, and simply by good management. The Mangel Wurtzel is the only root he uses for fattening. No other, he thinks, is to be compared to it.

If the system of clovering, recommended in the Farmer, and successfully practised by some of the best farmers in Michigan, is carried out by our farmers generally, they will be necessitated to enter somewhat largely upon stock-raising, and thus, in addition to the benefit derived to their land from the clover turned under, they will be enabled to enrich it with the immense quantities of manure which will, in consequence, accumulate upon their hands, nor should this, by any means be a secondary consideration. Let Mr. Mechi's method of preserving manure, mentioned in my last, be adopted, and all the manure which could be made under such a system, (the clovering system,) be sacredly preserved and applied, and Michigan may soon set an example of progress, to which the older States of the Union may look with admiration.

And, by the way, I have no doubt that our farmers would find it greatly to their advantage to turn their attention, to some extent, to the cultivation of roots. A few acres in roots would be an excellent collateral help in the raising and fattening of stock, and instead of buying oil cake, they may feed their Indian meal with their Mangel Wurtzel.

Our farmers seem to have left a very important element out of their calculations, when they have set themselves down to count up the loss and gain of keeping stock. They have kept their eye solely on the market price of beef and pork, butter and cheese, and have left the immense advantages they would realize to their farms, the actual value they would thus add to their land, entirely out of their reckoning. Strange indeed is it, that a consideration which should have a prominent place in their calculations, should thus be left out altogether. Passing strange.

After my interview with Mr. Lacy, I directed my steps to the great Agricultural Implement shop of the Messrs. Ransoms, one of the greatest in England. It covers some acres of ground, but is not altogether devoted to the manufacture of agricultural implements, although that seems to be the prevailing department.

Upon entering the long and spacious apartment where the implements are kept, I was struck alike with the vastness of the collection, and the perfection of their make. They have a horse hoe, which I should think better than either the cultivator or shovel plow, in weeding corn, potatoes, &c. It is very simple, and I will give a description of it hereafter. I noticed a sub-soil plow, which I should think would go two feet deep, the bottom part consisting simply of a round bar of iron, say two and a half inches in diameter, terminating at the point, in two wings perhaps nine or ten inches from tip to tip, raised, of course behind, so as to lift and break the earth under which they pass. They have a very great variety of plows. One improvement struck me as being a desirable one, particularly for smooth lands, viz: a pair of wheels attached to the forward end of the beam, the one larger than the other—the larger one to go in the furrow, and the smaller one on land—the effect being to keep the plow in its place almost without any holding. I noticed also a magnificent wrought iron plow, and was told that it was supplanting the wooden ones, being much more highly esteemed on account of its lying to its work more closely, and moving steadier. They told me the draft was not more than that of a wooden one, although it is much heavier. The cost is about fifteen per cent more.

There was a threshing machine some eighteen feet high, I should think, the place where the sheaves were put in being near the top. It was was to be sent to Poland.

They were also at work upon a machine which was destined for the mines of Russia. In addition to agricultural implements, they manufacture steam engines, printing presses, &c. &c., besides pins and plugs for rail-road fastenings, in immense quantities. For the pins (wooden ones, about five inches long) they get £4 10s. about twenty two dollars a cask, (about a barrel and a half.) But every single one of these pins, in the process of being made, passes through about twenty hands and when about half done they pass through a press which lessens their dimensions, by the pressure about one-fourth, so that when wet, after being in their places, they will swell just to their orignal dimensions; and the same with the plugs which are used in fastening in the rails.

I will just add here, that I visited, not long since, the farm of Mr. Moore, at Enfield, fifteen miles North East of London, and that Mr. M.'s mode of farming corresponds very much with that of Mr. Lacy. I saw there, I think, the best twenty acres of wheat I ever saw anywhere. It was as high as my head, stood thick and the heads were long. If nothing befalls it I should not be surprised if it should average sixty bushels to the acre. The land was poor, but has been brought up by draining and manuring, mostly with stable manure. The wheat in the general throughout Great Britain, is said to be much more promising than usual.

At Enfield I was shown an old brick house, which was one of Queen Elizabeth's palaces, and a cedar tree by it which she planted; I was so stupid that I did not go near them.

Truly yours,

WARREN ISHAM.

NUMBER XVIII.

HEDGES.

Norwich, Norfolk, July 14, 1851.

The readers of the Farmer will doubtless expect me to say something about Hedges, and in view of the somewhat contradictory views which have been given by correspondents on the subject, I have taken some pains to collect reliable information. In the communications which have appeared in the Farmer, some facts, of a valuable character, have been presented on both sides, but neither has presented so full a view of the matter as to enable one to come to an intelligent decision, as to whether hedges would make a profitable kind of fence for the farmers of Michigan.

They appear to make hedges here from almost every thing; there is scarcely a tree of the forest which has not been tested for the purpose. Those which have fallen under my observation are of the whitethorn, blackthorn, privet, holley, box, sloe, elm, beach, and maple. The three last, however, cannot be used where they are exposed to be browsed by cattle. But I have seen beautiful hedges from them where they are not thus exposed. They are more inclined, also, to send out their roots to a distance near the surface, particularly the elm, which is prevented by digging a trench along on each side, the trenches being dug before the hedge is planted, and the dirt thrown in, so as to form a ridge between them, to serve as a bed for the young plants.

The sloe is said to be a wild plum; the leaf of the holley resembles that of the oak slightly curled, and is armed with prickles. The privet is a slender plant, and a hedge of it resembles somewhat intertwined vines; of course it does not stand very strong, but it forms a beautiful hedge. I think I saw it growing in the nursery of B. Hodge, Esq., Buffalo.

But the whitethorn is supplanting most other kinds, as combining both hardiness and beauty, in a higher degree than any thing else which has been tried. But I am informed that it has been tried and found wanting in hardiness in the United States.

There is a kind of thorn, however, the three thorned Acacia, sometimes called the white barked thorn, which is said to be much hardier still, and which, it is thought, would be hardy enough for the United States. The Portugal laurel is said to be equally hardy.

The whitethorn is six or seven years in forming itself into a full grown hedge, and most of the kinds used are equally long, except the privet, which is not more than four years, but it is so wanting in hardiness that hard winters often kill it here.

Until the hedge gets up so as to form a fence, it is necessary of course to protect it with something which will serve for a fence in the meantime. For this purpose, hedges which have been left unpruned, and suffered to grow at random, for a few years, are drawn upon, their limbs being cut into sections, and stuck in the ground along on each side of the young hedge, which is commonly planted on a sharp ridge, say two feet high, the ridge and the dry thorn thus inserted affording ample protection. Sometimes, the hedge is planted on the bad ground, and indeed it is often the case.

Sometimes old hedges are left to grow up for the purpose of furnishing material for protecting young ones; and sometimes they grow up by sheer neglect, and present a most unsightly appearance. Such must have been the case with the hedges upon Bishop Hobart's place, mentioned by a correspondent. I can readily conceive that those hedges may have become a perfect nuisance upon the place. But this is no argument against hedges, any further than it gives one a peep at the never ending care to be bestowed upon them. These overgrown, hideous looking hedges, however, may readily be cut down with a hook, and young shoots will come right up and form a new hedge. The hedge does not necessarily occupy more than about a yard of ground in breadth.

The pruning has to be commenced when the plant is about a foot and a half high, which will not be until the second year. To keep the hedge in order, this operation must be performed twice a year, and some say three times, leaving the plant about a couple of inches higher at each pruning than it was at the last, until it gets to the desired height, where it is to be kept. And here, I apprehend, I shall upset the calculations of some persons in regard to hedges. I have no doubt there are multitudes in our country who think if they could once get a hedge trained up to the required height, in perfect order, all their troubles would be ended as to fencing. But such is far from being the case. Their hedges must be pruned all over, from bottom to top, two or three times a year, as well after they get to the desired height, as before, always, year after year, as long as they can expect to enjoy their benefits, for if the pruning be neglected, the bottoms will run out, and the tops will run up and sprangle out most uncouthly. The pruning is done with shears, and a man can go over say from thirty to forty rods a day.

Another mistake which some doubtless entertain, is, that there is no end to the duration of a hedge, and that in building hedges, they are erecting a memorial which is to stand through many generations,and perhaps to be found standing, when proclamation shall be made that "Time shall be no more." But admitting that you have the hardiest and the best variety of hedge that can be procured in the wide world, and that you continue to bestow all necessary care upon it—even in that case, and under the most favorable circumstances, it will not last more than forty or fifty years.

In regard to the comparative advantages or

disadvantages of this mode of fencing to our farmers, they can, with these data before them, form their own estimates. In counting the cost, they will take into the calculation that at least two prunings a year will be necessary, after they get their fence made. To keep the hedges in order upon an eighty acre farm, divided into ten acre lots, would require a permanent annual outlay of from thirty to forty days' work, and *that*, after having gone through the six or seven years' trouble of rearing the hedge, and protecting it with another fence. On the other hand, if they get the right sort of material for a hedge, they have a very beautiful, impervious and permanent fence, that is, as permanent, probably, as any thing which can be used as a fence.

But whatever opinion may prevail as to the economy of this mode of fencing, as a resort for our farmers, to supply the lack of other materials, in general, I have no hesitation in enjoining it upon them, so far to adopt it as to ornament their grounds with it in the vicinity of their dwellings. While I should fear, that if the attempt were made to fence entire farms with it, or any considerable portion of them, the necessary care would not, in most cases, be bestowed, & that instead of being an ornament, it would become a hideous deformity, I should have a good degree of confidence, that most of the farmers of Michigan, would have pride enough to keep in order a few hundred yards about their dwellings. Nothing could add more to the rural beauty of the family abode.

I have seen the door yard and garden fences pruned into a variety of shapes. Sometimes they terminate at the top in an oval form, and sometimes they come to an apex, almost like the roof of a house, and sometimes the top is a flat surface, one two, and even three feet across. When they are three feet across, the hedge is nearly a perfect square block of verdure. When kept in order, the sides, from the ground to the apex, if the top be oval or sharp, present one continued, smooth, even, uninterrupted matting of small green leaves, and nothing else, and the same with the square ones on the sides and top. I am sure if our farmers could see them, they would fall in love with them, so far at least, as to be induced to add this enchantment to their domestic abodes.

But the master-piece of beauty, in the hedge line, is the little box-hedge, as seen in what are called edgings, which are nothing more nor less than little hedges, about two inches or two and a half high, formed from the box tree, and running along the edges of gravel walks. I have seen them in the shape of a perfect square, like those described above, only of miniature form, (about the size of a piece of scantling 2½ or 3 inches square) and their appearance is very beautiful, as they wind about with the gravel walk.

But I do not expect our farmers generally will think this little affair worthy of their attention, and yet nothing would delight me more than to see those of them who are able, condescending, even to such little matters. There are extremes on both hands, equally to be avoided. There is such a thing, on the one hand, as a savage disregard of the elegancies, and even the decencies of life, and on the other, an extravagant indulgence in superfluities, which is equally to be deprecated. But in this department there can scarcely be such a thing as extravagance, for the time devoted to the verdant beauties described above and such like, is just so much time redeemed from absolute waste, for no more time is required for the purpose than the odd spells which are usually thrown away.

A decent regard to such things, shows at least, a sensibility alive to the beauties of nature, and a heart which admits the play of such emotions, cannot be very hard, uncivil, and unkind. It must be the abode of social affections, and of generous and noble sympathies. Look abroad within the scope of your acquaintance, and see if it be not so.

Norwich, (the place where I now am) is a city of seventy thousand inhabitants, and is 112 miles North-east from London, being the shiretown of Norfolk. This county and Suffolk extend farther east than any other part of England, and these counties are said to have been in advance of most others in the kingdom, in originating and carrying forward the system of agricultural improvement. I have seen many superb farms here, but my continued ill-health has prevented my going about as much as I have designed.

In coming here, my attention was arrested by the immense number of wind mills. Seldom was I out of sight of one or more, generally in motion—similar to the old wind mills on the Detroit river. I am surprised that they do not substitute steam as we have.

The general appearance of the country is quite rural. In addition to the hedges there are a great many shade trees, running along in them, and also along on each side of the water courses, appearing as though they had been planted. These with the waving wheat-fields, barley-fields, oat-fields, pasture-fields and meadow-fields, each presenting different shades of living green, alternated occasionally with the reddish or darkish colored fresh turned soil, and all spread over a variegated surface, present to the eye a sight luxurious to behold.

There is one thing wanting, however, to fill up the outline, and give the finishing touch to an English landscape. I refer to those forests of Indian corn, which, in American soils, under the genial warmth of an American summer, are thrown up, almost as by enchantment, presenting a stateliness and a richness of verdure, which entitle this crop to pre-eminence over all others.—Nor does England feel the want of this crop only as a desideratum in her landscapes. She has no substitute which can adequately supply its place, as a dependence for stock.

I will merely add, that this, and all other cities in England wear an antiquated appearance, and do not begin to compare with American cities, as might be expected, in freshness and beauty—houses old, smoky, and low, add streets narrow.—There are some important exceptions.

Respectfully yours.

W. Isham.

NUMBER XIX.

VISIT TO WALTHAM—MR. SNELLING'S FARM IMPORTANT EXPERIMENT.

London, July 18th, 1851.

I have, in another communication, exhibited Waltham in rather a disparaging light. Certainly, it was giving rather a dark shade to the picture to represent her with more than half her population in the poor house at one time, a circumstance which would seem to give, and actually does give, a leading characteristic to the place.

At the same time, Waltham, be it known, is a delightful agricultural parish, and exhibits no ordinary degree of rural beauty. Of the many fine farms that came under my observation in this parish, I shall select that of Mr. Snelling, as the one best calculated to afford useful instruction to the farmers of Michigan.

I found Mr. S. an open-hearted, whole-souled, intelligent English farmer, of the first class. Of his farming capacities I had had an inkling, as I came along the road, before arriving at his house, where a large number of men were employed in digging and carting clay from a pit, to be transferred to his light soils, four thousand tons having been taken out.

In the first place, he took me to a portion of his farm, which he called "the Moor," which term is but another name for a marsh, just such as we have in Michigan. But what did I see here? Immense meadows of wild grass spreading themselves out, as far as the eye could reach? No such thing—but instead was seen, on every hand, the luxuriant wheat-field, waving in graceful undulation to the breeze, and extending far away over the level acres. But how is this—what is this which my eyes behold? Surely, it is a reality.

I have ever regarded the marshes of Michigan, as incapable of growing wheat—as being deficient in elements, which are necessary to give strength to the straw, and fullness to the berry, and so it is in fact, as every one will find who chooses to try the experiment. I know very well, that these deficiencies could be supplied, but I did not know, that they could be supplied at a cost, which would be justified by the result. But from the successful results here witnessed, I am inclined to the opinion, that should any of our farmers, who have extensive marshes, be short of wheat lands, they can very readily convert them into such. Means of course will be required to accomplish the object, but what of all that, so long as you get a profitable return? Are not means necessary to possess yourself of a farm in the first instance? Are not means necessary to carry it on in the ordinary manner? In expending means, if you get as good or better returns by a little extraordinary outlay, in any given case, should you hesitate, because it is extraordinary, and a little out of the common routine—especially, when by so doing, you are removing causes of disease, as well as downright deformity, and adding healthfulness and beauty, as well as value to your premises.

It is getting to be pretty well understood by many already, that draining, and cultivating our marshes in almost any sort of crop except wheat, is a profitable business for our farmers. And, be it remembered, that the additional outlay have shown to be effectual in making them capable of growing wheat, will also greatly add to their capacity to produce other crops.

The first step in the process, was to drain off the water. For this purpose, large open ditches, say three feet and a half deep, were dug along the lowest parts of the moor, and into these under drains thirty-six feet apart, emptied themselves, thus producing a never-failing, running stream, along which, on either side, are planted shade trees.

The next step was to take off the surface and burn it. This was done by hand, cutting and peeling off the peaty turf which covered the surface. This, however, can be done much more expeditiously and economically, by means of an implement, which has been invented for the purpose, and has been successfully operated in Michigan, paring off some four feet wide of turf at a time, which, when dried, is burned. Two evils are thus remedied: the troublesome peat sod is removed at once out of the way, and at the same time, the alkali contained in the ashes, serves to neutralize the acids which abound in all such soils, and are poisonous to crops. Draining carries them off in some degree, and the alkali thus obtained neutralizes what remain.

In the next place it was necessary to add the deficient elements, the redundant ones having thus been removed. To furnish the necessary material for the berry, he applied a small quantity of guano, in the composition of which phosphate of lime predominates, which phosphate forms the staple mineral element of the wheat kernel. As an inexhaustible bed of this phosphate has lately been discovered in the State of New York, it is to be hoped that it will forthwith be made available to our farmers, at a reasonable rate, so that they may not be terrified at the idea of having to double Cape Horn to obtain the necessary manure to grow their crops. I did not ascertain the precise amount of guano employed, but he said "a small quantity."

Again, it was necessary that the straw should have the necessary strength to enable it to stand

upright, under the burden of a well filled head, as well as that of its own weight. And in supplying this defect, another was supplied at the same time, viz. giving adhesiveness and tenacity to the loose and porous soil, so as to enable the roots to take a firm hold. Both of these defects were supplied by the application of clay, into the composition of which silica or sand enters largely, which, in combination with potash, as I have stated elsewhere, forms the glaze upon the wheat straw, and enters also into its internal texture, stiffening it, and enabling it to maintain an upright position. But one would suppose, that an enormous quantity of clay would be required for his two-fold purpose. And how much—do you think? All that he put upon it, was twenty-five loads to the acre—not more than is requird to manure an acre from the barnyard.

In passing along the road which led across the moor, on each side of which was an open ditch, there was a wheat field upon the right, and another upon the left. The wheat upon the left was as high as my head, stood thick, and the heads were long. That upon the right was only what might be called "a pretty good crop," but was no more than ordinary. The portion on which stood the stout wheat upon the left, was treated with guano and clay, as above stated, but the portion upon the right, on which stood the "pretty good wheat," was treated with the guano without the clay, there not having been time to apply the clay.

I asked him if the berry would be as plump and as good as upon the ordinary uplands, to which he replied, that there might be a slight difference, but not enough to affect the yield or quality.

Five years ago, this moor was regarded as worthless, and Mr. S. fairly made himself a laughing-stock to his unbelieving neighbors, when he set himself to the task of improving it, especially when he undertook to make it capable of producing wheat. So that, so far as this last feature of the improvement is concerned, this seems to be a new thing even in English agriculture.

The soil is peaty, loose and porous, and has, as has the underlying muck of all our marshes, a small proportion of silica, or sand in its composition. The grass upon this moor, in a state of nature is also precisely similar to the wild grass upon our marshes. Upon a portion of the improvement, I observed a heavy burden of rye grass, which was falling before the scythe of the sturdy laborer.

I observed to Mr. S. that I supposed that all the benefit of such improvements, so far as the increased value thereby added to the land, was concerned, accrued to the proprietor of the land, "the lord of the manor," to which he repiied that, it did. Thus has this tenant farmer (and such are nearly all the farmers of England) by the improvement of a hundred acres of this moor added a value of twenty thousand dollars to the estate of his landlord, and and all the inducement he had to make the outlay, was the profit he might realize from the crops, at a time too when wheat is no higher, here or very little than in America, the market price the last year being 3 shillings 8 pence sterling to four shillings, or from 7 to 8 shillings, our currency. Hence little wheat, or flour has been exported recently from the United States to this country, altho' the repeal of the corn laws has operated largely in opening a market for other kinds of produce.

But to return, is it not surprising, that such improvements, should be made, when the main advantages of them accrue to the benefit of another? Is it not marvellous, that such a spirit can exist in a man upon a farm, not a foot of which he can call his own? How incomparably greater, in this point of view, are the inducements which present themselves to our Michigan farmers to improve this kind of land, all the advantages of it being secured to themselves alone.

It is very true, as I remarked, that means are necessary for this purpose, and those of our farmers who are involved in debt, would hardly be justified in embarking in very extensive improvements of this kind, until they are better able.—But we have a great many farmers, who have an abundance of means, and who could not expend them to better advantage.

Mr. S. pays, in common with others in the vicinity, a pound and a half rent per acre. This they regard a reasonable rent, but they complain loudly of the present system of rating their tithes, which is by commutation, that is, they pay a fixed sum annually, instead of paying one tenth of every thing. The amount to be paid, was fixed by law, the year before the corn laws were repealed, and graduated according to the high price of grain at that time, or rather, the average price of the seven preceding years. But the repeal of the corn laws the very next year, brought down the price of grain one-half, which altered the case very essentially, but they are still bound by the commutation law, to pay as much as when grain was double the price, which they think a hard case.

It is true, as I stated, that one-tenth of the land belongs to the church in fee simple, and it is also true, as I supposed, that the cost of production comes out of the farmer, but it is proper that the whole truth should be told, and even necessary to a full understanding of the subject, and I will therefore state another fact which is not generally known, viz. that the parish parson is obligated to pay one-fifth of the tithes he receives, for the support of the poor in the parish.

The farmers generally do not complain so much of the necessity imposed upon them to pay tithes, as they do of what they consider incidental, unjust exactions, which have been sanctioned by immemorial usage. For instance, before the commutation law, of which they complain so bitterly,

was passed, they were obliged to pay a tenth of the produce of the land, and then after devoting a portion of the remaining nine-tenths to the rearing and fattening of pigs, poultry, the production of milk, &c., &c., they were obliged to pay a tithe of all this, which to some extent, was paying their tithes over the second time, and the commutation act was based upon this usage.

But to return again, after leaving the moor, Mr. S. conducted me over the rest of his farm, which equally exhibited the marks of his enterprising and skilful management. He has two fields of beans, embracing some sixteen acres, which he thought would average forty or fifty bu. to the acre. They are a kind of bean much cultivated in England, but I have never seen them in the United States. They grow two feet to two and a half high, without branches, and are generally pretty well strung with pods from top to bottom. There are two kinds, those in one of his fields being for his stock, and those in the other, which did not grow quite so high, but bore a larger bean, were for family use. He seemed to regard them as a very profitable crop.

Mr. S. is one among many striking instances, showing that all that is wanting in those farmers that have sunk down into supineness, because they cannot get as much as they used to for grain, is enterprise and skill in the conduct of their farms, to ensure them a good return, a far better security for their permanent prosperity than protection. The truth is, that they have, in times past, been quite too much in the habit of trying to play the gentleman, that is, the class to which I allude, and to retrench and economise, is a new idea to them. I received some valuable horticultural information, from Mr. S. which I shall communicate hereafter. One thing I must say, that I have never yet seen a decent farm gate in England. Respectfully,

WARREN ISHAM.

NUMBER XX.

YOUNG AND OLD ENGLAND—VISIT TO WALTHAM—THE LABORING POOR.

LONDON, July 19th, 1851.

Waltham is a parish of twelve hundred inhabitants, in the County of Suffolk, consisting of farmers and their dependant laborers—the latter constituting the great mass of the population, and thitherwards I had directed my steps, for the purpose of visiting one or two farms, of some note, of which I shall give an account in another place.

Falling in with a venerable old farmer by the name of Reed, and learning from him some startling facts in regard to the pauperized condition of the laborers, as witnessed in the parish poor-house the last winter, my curiosity was awakened to know more about the poor-house business, and I accordingly determined to hunt out the place, and seek an interview with the Superintendent, and learn from his own lips, whether these things were so. Upon arriving at the house I was welcomed by the Superintendent, whom I found to be an intelligent Scotchman, and who, upon being informed of the object of my visit, entered into free conversation upon the subject.

He said that there were about a hundred and twenty able-bodied men, in perfect health, who were numbered among the inmates of the parish poor-house the last winter, (and of these, from 20 to 30 were hale and hearty young men) in addition to the large number whom age and infirmity had compelled to take up their abode there. And all these, be it remembered, with their families, were found in the poor-house at one time, out of a population of twelve hundred, making at least one-half the population of the parish, while there were many who did not go there, that were in a suffering condition.

It is proper to remark, however, that this is perhaps a more marked case than is usually found. I discovered, that many of the farmers, either from spite at Corn Law repeal, or from a mistaken apprehension, that they could not now so well afford it, had not employed their usual complement of men in carrying on improvements, and as a consequence, those who are thrown out of employment, must either starve, or go to the poor-house. I must add, that those farmers who have deported themselves thus, under the operation of Corn Law repeal, are not of the first class, as the case of their more prosperous neighbors, who have pursued a different course, abundantly shows, and of some of these I shall speak elsewhere.

I thought it right to mention the above circumstance, as it has undoubtedly had some influence in increasing the number of paupers in the parish. But aside from the operation of this cause, the case is bad enough in all conscience. As to the fact of large numbers of able-bodied and healthy men being found in the poor-houses throughout England, the Superintendent assured me, that it is common enough every where.

I asked him if these people appeared willing and desirous to go to the poor-house, so that they might get a comfortable support without the necessity of laboring. He said no, that they were very reluctant to go, and only consented to it as a matter of absolute necessity. But after they had once been there, and found how comfortably they could live without labor, all their sensitiveness was gone, and they were ready to avail themselves of any pretext to get back again. It is surprising, almost, that the poor creatures should have any sensibility upon the subject, even at first. Why should they? Trampled down by the hoof of power, and regarded as of no account either politically, socially, or in any other way, except to serve, and thereby promote the interests of their superiors—why should they not be willing to retire from the hard, the inglorious, and thankless service. to be provided for in a comfortable abode, at the expense of those for whom they have toiled? Certainly, by taking such a

step, they do not descend—that they cannot do.

All my impressions in regard to the extreme ignorance of these people, (of which I have already given some specimens) were more than confirmed by the Superintendent. And coupled with their ignorance I had remarked another trait, of equal prominence, upon which he descanted at some length. I refer to the total absence of every thing like talent, or even natural shrewdness, of total stupidity and dulness which is amazing in beings, which belong to human kind—and that they actually do belong to the race, there can be no doubt, from the general external likeness which they bear to mankind. I have tried, in scores of instances, to get them into conversation, and generally they will answer in monosyllables, with a stupid stare, and if they venture further, it is only to make themselves ridiculous—if such a term may be used when pity alone should have place. The Superintendent related to me many instances of their stupidity and ignorance, which were in harmony with those which had fallen under my own observation. On one occasion, being in company with about a dozen of them, in the year 1844, he said to them, can any of you tell me the exact time when you were born? Not one of them knew any thing about it as they freely confessed. He then, addressing himself to one of them, said, "I think you, sir, was born about the year 1840." Well, he replied, I rather think that was just about the time. And, altho, that would only make him four years old, there was not one of the dozen men that suspected him to be hoaxing them.

I had supposed that I had seen human nature, as modified by varying circumstances, in all its aspects before. I had seen it in our Southern States, in circumstances as unfavorable, to mental developement, one would suppose, as could well be imagined. But our slaves in the Southern States are beyond comparison, more intelligent and talented, than the agricultural laborers of this kingdom; you can scarcely put a question to any slave which you may meet, any where at the South, in respect to any common place matters, but you will get an intelligent answer, and often he will manifest great shrewdness, and not a few of them are distinguished for intelligence.

But why is it that the agricultural laborers of this kingdom are so far beneath them? Do you say that the negroes are naturally a superior race? That argument will hardly stand, for these laborers were originally of the same stock with the superiors whom they serve, and they are as a general thing, intelligent enough. As a philosopher then, how do you account for the fact?

I mentioned, on a former occasion, the remark of an English by-stander, that the people belonged to the soil as much as the serfs of Russia, uttered in reply to a question I had put him, how it was that they spoke of belonging to Esquire Pusey and the Earle of Radnor, but still I did not fully understand the matter, as I was aware, that they were at full liberty to leave their employers and go where they pleased. I therefore embraced the opportunity now afforded me to get enlightened on the subject. In reply to my enquiries, the Superintendent remarked, that, altho' they were at liberty to go where they pleased, yet such were their local instincts, and such the circumstances with which they were surrounded, that they seldom or never removed, but continued to occupy the same hut, from generation to generation. In the first place, he said, suppose one of them acts dissatisfied with his master, he will not think of going out of the parish, even if he could master resolution to do so, from the fact, that, for a time, he forfeits the privilege of being admitted into the poor-house, and as he is entirely destitute, this is an effectual barrier against his over-stepping the limits of the parish in pursuit of employment. And then, suppose he goes the rounds, making application to other farmers within the limits of the parish, he will most assuredly be rejected in every instance, for there being a redundance, rather than a scarcity of laborers, the farmers have no difficulty in keeping up an understanding among themselves, that they will not give employ to each other's disaffected laborers. As the only alternative left him, as he views the matter, the poor fellow gives up and goesto the poor-house, and as was before remarked, after having once overcome his repugnance to entering, he is contented enough, and ever after shows a disposition to make it his home.

In addition to these causes which operated to bind these people to the soil, he said, was their strong local attachment to the hut, and to the spot where they were born and raised. There they thought they must live and there they must die, and to remove from it was like tearing the cords of life assunder. Sometimes he said they were wheedled away as soldiers, and when one of them deserted, he was invariably traced to the hut where he was born, and there he was always found.

And thus it is, that through the operation of natural instinct, in combination with the coercive circumstances with which they are surrounded, the agricultural laborers of this kinddom are as effectually tied to the soil, and transferred with the soil, as though they were actually named in the bond. In but one solitary respect, is their condition more desirable, than that of our slaves at the South, viz: that they are not subject to the lash. As to compensation, they have no pre-eminence over them. Eight shillings sterling, per week is the most that they get in the most prosperous times, in a great part of England, to board and clothe, both themselves and families with—*about ninety dollars a year and find themselves and families!* I doubtwhether there are many families of slaves, of any size, that are fed and clothed on as small an amount, and provisions of all kinds there, are much cheaper than here.

But the question recurs unanswered—why are these oppressed laborers inferior in intellect, to

the slaves of our Southern States? Of the fact, we have the most incontestible evidence, but the reasons of it seem to be below the ken of common observation, and I have neither time nor space, nor inclination at this time, if I had the ability, to go down and bring them up, altho' I think I have the clue to the matter. But what is to be thought of the government of a country which thus stultifies, and almost brutifies the mass of the people—a government which originally parceled out the landed interests of the kingdom among a few favorite chieftains, and which at the same time, put the mass of the people under their feet—an order of things which has continued for a whole decade of centuries gone by? And how glorious does the government of our own beloved country appear in contrast with this! O how little do our people know how to appreciate the privileges which they enjoy, and how greatly they are distinguished among the nations of the earth! *Young and Old England!* Indeed! That is pretty talk of two governments, which are heaven-wide asunder, in every thing, I had almost said, which pertains to the great ends of government—the best interests of the governed. Far away from the contagious influences of the tyrannical governments of the Old World, in the free air of a far distant continent, has arisen a government, in perfect antagonism to any thing the world ever saw before, and in the mighty experiment, principles are being developed and established, which are yet to bear sway over all the earth. Tell me not, that like all earthly governments, it will rise only to fall and be no more. The rise and fall of the governments of the earth, the wrecks of which are strewed along the path of centuries, furnish no data on which to base a calculation, or even a conjecture, as to the fate of our own, for there has never been any thing in the shape of a government, since the world began, with which it could be compared—but on the other hand it stands out in bold contrariety, even to those governments, which, in some minor points, have approximated to its form.

Lord Ashburton, at the recent great annual cattle show, undertook the ridiculous task of drinking the health of the agricultural laborers. I was not present that day, not having returned from my trip into the Eastern Counties, but the Times reported his somewhat protracted and windy speech upon the subject, and hard work enough he appears to have had of it too. He said "the laborer was called ignorant and uneducated because he could not talk. But that was the wrong text to try him by—it was the text to try a book man by, but not a laborer. A laborer was to be tested by his deeds, but not his words. Go unto the field said he, and see if the laborer is ignorant, uneducated. Can that man be said to be ignorant and uneducated, who can turn a furrow as strait as you can draw a line, and scatter seed so evenly over the ground, that every portion of the field has its due proportion?" This mighty argument constituted the whole burden of his speech. It would have been an unanswerable reply to it to have said to him, that there were such things as learned pigs in America.

The truth is, that the aristocratic branch of this government, which has heretofore swayed the destinies of this kingdom, is based upon the ignorance and degradation of the people, and hence it has ever been the policy to keep them ignorant and degraded, for the moment they become enlightened, the rotten foundations which sustain that branch of the government, will be swept away. The times, speaking of the importance of improving the dwellings of the poor, remarked, that it was a matter the Lords were interested in, for, it added, "a Lord without a peasantry, would be an anomaly, a contradiction in terms," and so it would, but it should have said, "a Lord without an ignorant and degraded peasantry," &c., for no other can he have.

Through the force of public rebuke, and from very shame, considerable effort is now making to educate the children of the laboring classes, at this late hour, and if any thing like a general system of education for these classes, is carried into effect, it will prepare the way effectually for a complete revolution in the government.

A great deal has been said about quiet and virtuous lives lead by the simple people, and feeling a desire to know whether they were really virtuous and happy, even in their degradation, I asked the Superintendent a few questions upon the subject. He replied that nothing could be farther from the truth, for they were neither virtuous nor happy. The parents and children were crowded together in one room, and boys and girls lodged in the same apartment until they grew up, and when grown, there was nothing to restrain them from the most debasing sexual vices. They all had, moreover, he said, a sort of low, brute cunning, a kind of "I'll cheat you if I can" disposition, by the way, which is inseperable from such a condition of human nature, and if wrong could ever be made right, such a disposition in such circumstances, would be a virtue.

As an appropriate conclusion to my visit to Waltham, I will give a brief account of my way out. I was only a little over a mile from the railroad station, but was not acquainted with the way, having come in from another direction.—Starting for the Station, I was simple enough to enquire the way of these simple folks, and by their direction, I went a mile out of my way, in one direction, and then a mile out of my way in another, and thus I spent an hour and a quarter in getting to the Station, only a little over a mile, and just as I had gotten within about a quarter of a mile of it, the cars came puffing and rattling along. There I was, yonder were the cars. I was "five minutes too late," and yet I had important inducements to be in London as soon as the cars could carry me What shall I do, O

Waltham! Waltham! I can almost invoke a malediction upon thy hapless children. But lo! the Superintendent of the Station recognises me, and orders the cars to hold on; I hasten my steps, and in a moment am careering on my way.

Respectfully, WARREN ISHAM.

Horticultural.

☞ We shall present the readers of the Farmer with several lists of Apples adapted to our climate and soil, from a number of sources, as soon as possible. As we cannot publish them all at once, we shall give them in the order that they come to us. We publish, this month, one from Linus Cone, and we have one on hand from Dr, Kennicot, of Illinois, which, owing to the crowded state of our columns we are obliged to lay over.

CANARY ISLANDS—GRAPE CULTURE, STRANGE FACT.

ATLANTIC OCEAN, May 13th, 1851.

I had, as a fellow-passenger, a gentleman from one of the Canary Islands, (Teneriffe,) situate in latitude 28°, from whom I derived considerable information in regard to grape culture and other matters in those islands, which is somewhat curious and interesting, and I think some practical inferences may be drawn from it, which may be applicable to other latitudes.

Those Islands are of volcanic origin, having been thrown up from the depths of the ocean by the action of those pent up internal fires which, from the expanding and upheaving power of the gasses which they generate, occasionally find vent by bursting through the crust of the globe. From the time of their first upheaval, the "Peak of Teneriffe," which was thus raised like a tower to the skies, in mid ocean, has never ceased to pour forth its volumes of smoke, attracting the eye of the mariner at a distance of near two hundred miles upon the mighty deep. The surface of the Island is variegated by many lesser peaks, mountain ridges, valleys and plains. These lesser peaks or hills are devoted to grape culture, the soil exhibiting all the appearance of the ashes of stone coal, composed, to a great extent, of black cinders. We asked him what sort of manure was made use of in the culture of the grape vine there. None at all, he replied, and added that it had been cultivated a hundred and fifty years in succession upon the same ground, without manure and without transplanting, and so far from deteriorating, the crops had grown better the whole time.

This set all our philosophy aback, and we set our wits to work to account for the phenomenon. We remembered that alkaline substances, particularly potash, had been made use of with signal success as a manure for the grape vine, and it seemed likely that this ashy soil contained potash in just that state of combination which admitted of its being brought into a state of solution, just enough to supply the exigences of each successive crop, without any injurious excess. Add to this, the fact, that we drew from our informant that underneath this ashy substance, lays a mineral subsoil at various depths from the surface, and taking into consideration the further fact, that the root of the grape vine penetrates to a great depth, have we not, at least, a plausible solution of the difficulty? Upon the plains, which consist of common soil, manure is necessary

The vines are planted near three feet apart, and run on the ground, covering it all over with their deep green foliage. They are pruned in October, everything being cut away except the main stock, which is left about one foot from the ground, with side shoots to it an inch or two long. In January the buds begin to shoot, and in a few weeks the ground is covered.

The varieties cultivated are the Muscatel, (the raisin grape, and the only one,) and the Marmsey.

They grow, he said, as large as common plums, and are delicious far beyond anything to be found in our own country. But their qualities are greatly injured by being planted near a water course, or on a low, damp soil, the juice being watery and less delicious, and the wine bad.—The older the vines the more delicious the grape, and the better the wine.

Another product of the Island is the Cochineal or Spanish Fly of the shops. It is bred upon the leaves of the prickly pear, which is cultivated there for the purpose. The insect lives and feeds upon the huge and ugly leaves, from which they are scraped when they arrive at maturity. They are baked, or rather dried in ovens, and thus prepared for market.

Still another article of export from the islands is dragon's blood, which is the sap of the dragon tree, the color of which is red, and which is drawn from it by incision or tapping. It is, I believe, medicinal, and is to be found in the shops. Its precise qualities I do not know. From his account of it, this is a most remarkable tree, probably of slower growth and longer life than any other tree in the world. He said that a tree about six feet high, had been known to gain no more than half an inch in heighth in two hundred years, and it was growing all the time.—There was one tree, he said, upon the island, which Humboldt pronounced to be five thousand six hundred years old, and it is not remarkable for size. It is worthless for any other purpose than its sap.

In addition to these, most of the fruits which abound in the tropical climates, grow to some extent upon the Islands, together with nearly all the grains and fruits which mature in our own climate, the apple being almost the only excep-

tion. Finer cherries, peaches, pears and plums he never saw in any country.

The Islands seven in number, contain about two hundred thousand inhabitants, Spanish, and the nearest of them is about forty miles from the coast of Africa.

Island of Ichaboe. Guano.—The Captain related to me a notable instance of the avidity with which European nations seize upon every means for promoting the improvement of the soil. Soon after the discovery of the island of Ichaboe, (which lies on the west coast of Africa, two degrees north of the Cape of Good Hope,) he repaired thither for a ship load of the precious stuff. Having never been there before, when he had gotten near where he supposed the island to be located, he looked constantly in the direction of the coast, but saw nothing of it (the island lying close to the coast, could not be distinguished from the main land). Taking his spy-glass he discovered what seemed to him an immense forest on shore. His mate took the glass, and looking through it, exclaimed to the Captain that the forest which he saw was a forest of ships. They turned in towards them, and sure enough, there lay at anchor five hundred ships from the different nations of Europe, taking in their cargoes of Guano. I asked what he supposed to have been the quantity of guano upon the island, before it was disturbed, to which he replied, that there could not have been less than a million of tons. And yet such was the scrambling for it among the nations of the Old World, that at the expiration of two years from the time it was discovered it was all gone. They had to pay one pound sterling per ton, for it, to the British Government at the Cape, and some of them had to mortgage their vessels as security for the payment.

Guano is valuable chiefly for the phosphates it contains, particularly the phosphate of lime, which constitutes more than half the mineral elements, or ash, of the wheat kernel. Some samples have been found to contain as high as forty-four parts in a hundred of phosphates, and from that down.

Upon analysis it is found to be identical in composition with pigeon's dung, and it is pretty conclusively proved that it is the offal of sea birds—the accumulation of ages. Some beds on the Peruvian coast are said to be sixty or seventy feet thick, and yet Humboldt, who brought the first specimen of it to Europe, computed that it had not accumulated faster than at the rate of a third of an inch in three centuries. Either this calculation is at fault, or guano must have had some other origin. .

Respectfully yours,
WARREN ISHAM.

Harvesting Beans.—We like the plan of a correspondent of the *Maine Farmer*. He takes the requisite number of pairs of stakes, 6 feet long, places them in a convenient place in the ground a foot a part, and around them wreath a withe about a foot from the ground; place the beans on this withe, roots inward. Proceed, keeping the stack round until it is built high enough, then lay a small handful on the top over the roots, for a cap; then draw the stakes together at the top and confine them with another withe. Stacks put up in this way will shed rain completely and stand for any desirable length of time. When to be removed, put a lever under the lower withe, and raise the stakes out of the ground, and remove them to the cart or barn in the same manner as they stood in the field.—C. B.

Transplanting Fruit Trees.—The time for autumn transplanting will soon arrive, and we deem it proper to urge upon those who design planting, the great utility of observing care and thoroughness in the operation. With the best care usually taken in removing trees from the nursery, the roots are more or less mutilated; the soil in which they are planted is different very often, from that from which they were taken, and the climate also; and if these with other local circumstances do not receive proper consideration, serious loss will certainly be the result. The speediest method of preparing the ground for an orchard is to trench-plow, or sub-soil, strips, the distance apart you want your trees—32 feet, manuring with a well decomposed compost, consisting of swamp muck, rotten stable dung, ashes unleached, and a small quantity of lime, and salt; and mixing this thoroughly with the soil by plowing two or three times. If this preparation cannot be made *now*, our advice is, wait till you can prepare, if it is 2 years, as we believe that you will gain it in the end. But it is not necessary to wait longer than till next spring, as the muck may be got out this fall and exposed, in small heaps to the action of frost during winter. If not thoroughly dissolved in the spring, add the lime, (air slacked) and salt; about a peck of salt to a bushel of lime, and mix them thoroughly. Before applying the compost, mix all the ingredients together and turn them with a shovel twice at least. This will ensure a rapid growth the first season, and an early return for the trouble and labor bestowed.

In setting out trees place them no lower than they stood in the nursery, and lean them to the south-east, as our strongest winds are from that quarter. Sprinkle the fine earth through and through the roots, and dash on a little water occasionally. Finally bank up the earth a little a-

bout the tree, which will prevent its being blown over, and the attacks of mice. Remove every branch to within one bud of last year's growth and thin out the branches if the top is too thick. This done you are *certain* that your trees will grow.

And we should not forget to consult taste.—Those varieties which make a low spreading growth should be planted together, occupying alternate rows with those that make a vigorous, upright growth. An orchard planted thus, gives a most striking appearance when the tops become pretty well grown. Where there is unevenness in the surface of the ground, the upright growers should occupy the lowest and the spreading, the highest places. Peach trees may be planted between the rows of apple trees, and be removed when the latter are 6 or 8 years old. C. B.

Horticultural Premiums.—We find in the *Albany Cultivator* a list of premiums offered by the Lenawee Agricultural and Horticultural Society which for liberality has not often been equaled in this country. The Cultivator says:

"They offer $18 in premiums for apples; $9 for pears; $9 for peaches; $9 for cherries; $9 for plums; $3 for apricots; $3 for quinces; $9 for grapes; $4 for strawberries; $4 for gooseberries; $4 for raspberries, and $2 for currants; that is $83 in all for fruits. For roses they propose $18; for other plants and flowers, $27. In addition to these, the Society offer $30 for discretionary premiums on Fruits and Flowers; $12 besides discretionary premiums, for vegetables; $12 for the best nurseries; and $6 for the best gardens; making in all, for the encouragement of Horticulture, $188.

They also offer a premium for the best ten ornamental forest trees planted last spring by the roadside; and a premium for the best and greatest number of ornamental trees in or adjoining a road, saved from the destroyer's axe."

We are anxious to spread such facts and doings before the people; and we have been watching with eagerness the county papers and expecting every day something in some shape giving information of the proceedings and progress of our county societies; but with two exceptions we have had to look to foreign periodicals to ascertain what they are about. Why not send *early* all the doings to the "Michigan Farmer" for publication? There is an incalculable amount of benefit to be drawn from such sources, and if societies would thus communicate with each other, a spirit of enterprise and activity would thus be aroused which would lead step by step to very important results.

☞ Since writing the above we have received the Constitution and by laws, and the list of premiums for 1851, of the Lenawee Agricultural and Horticultural Society. C. B.

For the Michigan Farmer.

TROY, August 18th, 1851.

Mr. Charles Betts: Dear Sir—In furnishing the list of apples that you require, I have selected from those cultivated by myself, as I am little acquainted with the varieties cultivated by others out of this immediate neighborhood. In making a selection something would depend upon the location. If in the vicinity of a good market early apples would be perhaps the most profitable; but if located far from market, late keeping apples would yield the greatest profit. Again, a selection for market, and a selection for domestic use, would vary somewhat.

Boston or Roxbury Russet. It is very singular that this apple has not come into more general cultivation. "It is a prodigious bearer," even with ordinary cultivation, commaneing always in its season, the highest price in market. Season, from May to July,

Esopus Spitzenberg.

Rhode Island Greening.

Swaar.—"This is one of the finest flavored apples in America." It is a good bearer, requiring thorough pruning, a dry, rich, warm soil to bring it to perfection. Season from February to May.

Pomme de Neige, *Fqmeuse*, Snow. This is called an autumn apple, but with me, if gathered early, handled carefully, and kept in tight barrels it has kept perfectly sound until the middle of February.

Westfield Seek-no-further, or

Norton's Melon. This is a new variety which I have had in bearing three seasons, and thus far has sustained the reputation that it bears in Western New York. Fruit large and of excellent flavor.

If located in the vicinity of market, or for domestic use, I would substitute the early harvest, known as Tart Bough, Orange Pippin, White June eating and July Pippin, for the Westfield Seek-no-further, and the Early Strawberry for the Swaar. Then the list of 6 varieties would furnish apples for the use of a family for the entire year.

We have a single tree obtained of the late Judge Sprague, 23 years since, called by him the Pie Apple, cultivated in this neighborhood as the "Summer Greening," (yet bearing no resemblance to the Greening,) which answers somewhat to the description of your "Burr Oak Pie Apple:" "Flesh white, tender, juicy; sharply acid, requires but few minutes to cook, excellent for pies and sauce;" ripening in succession on the tree from first of September until into October. It is called by my family the best cooking apple that we cultivate. The tree grows open

and upright, with rather slender shoots, forming a beautiful top.

The first three of the above list would always be included in a selected list of 6 varieties; but there would probably be a difference of opinion in regard to the last three, and others would be substituted. As I have not written this out in form for publication, I will add a few further remarks.

With you, I place the greatest importance on a judicious selection of a small list of apples, adapted to our locality. But few, very few make such a selection, but instead of that run after every puffed, new, untried variety. Within a few years I have distributed to applicants many thousand scions of the Northern Spy. Now this as yet, is an untried variety with us, and unless it succeeds better with us, with ordinary cultivation than where it originated in New York, many, very many I fear will be sadly disappointed. True, there, it is a very valuable apple; but it requires something more than ordinary cultivation to bring it to perfection, and if not perfect it is of little or no value.

Again, I think that our nursery men grow,and offer for sale altogether too extended a list, many of which will prove of little value.

I have some of the new varieties now in bearing among which are the early Joe, specimens of which I will send you if any escape the woodpeckers and boys.

Truly yours,

LINUS CONE.

Remarks.—We have received from Mr. Cone a specimen of the Early Joe, and also of *his* Pie Apple. The former is the finest summer apple that we ever tasted. It is *very* tender, juicy and of excellent flavor. We advise every man who has a rod of ground to get one or more trees of this variety. J. J. Thomas states, that a friend of his has known a person to sit down by a basket of this fruit, and eat half a peck before thinking what he had done.

The *latter* is an excellent fruit. It is altogether different in flavor from the apple alluded to by us, and we think, a better fruit. It is tender,very juicy and rich.—C. B.

NEWLAND'S STRAWBERRY HUMBUG.

A few years since George Newland, from Palmyra N. Y., was in this region,and sold plants of what he called a new seedling strawberry, under the pompous name of "*Newland's Celebrated Mammoth Alpine Strawberry.*" A large number of cultivators purchased plants, gave them a fair trial, and condemned them as worthless. They were the old Wood strawberry, or something very nearly resembling it. So the whole affair proved to be a great humbug. This being known, Newland left this region, and has been operating in parts where he and his strawberry are not so well known.

We see by a late number of the Pennsylvania Farm Journal, that the editor has received a present of some vines from Newland's agent,and before waiting to give them a trial he is commending them to the public; thus aiding this impostor in deceiving the farming community. We think notice should be given of the imposition throughout the country in order to put a stop to the operations of this great impostor. Editors should check rather than aid him.—*New England Farmer.*

GATHER UP THE FRAGMENTS.

Few people are aware how much may be accomplished, saved, and gained, by attention to minute particulars. Life is made up of little things. Moments accumulate into hours, hours into weeks, weeks into years; and, comparatively a few years at the longest constitute a life-time. The largest fortune is but a conglomeration of cents; and as upon the number of the *grains* of wheat produced depends the very existence of mankind—by the individual particles of sand the roaring ocean is cribbed in and bound. And yet, how careless people generally prove themselves to be of *little things*; how they overlook and even scorn what they are pleased to denominate "*trifles*" The most successful men that the world has ever seen were those who paid most attention to little things, as is said to be the case with President Fillmore; and those who express contempt for them, are the very people who fail in everything.

As regards time, the inhabitants of cities are in general more careful than those who live in the country. A farmer, for the first time visiting New York City, cannot fail to be struck with the quick pace, the earnest countenance, the hurry, and rapidity of motion of the pedestrians, compared with the slow and dawdling gait of his neighbors in the village at home. The former know that time is money; and that their prosperity depends upon the amount of business which they can crowd into the working hours; and they do everything—walk, talk, eat, make their bargains, rapidly. The latter fail to comprehend this; they fail to see that there is much good to be done, much happiness to be gained, much money to be made by entering upon other pursuits, or by understanding the elements of their present busines better; and in the course of a year, as many hours, or in accumulation, weeks

are lost in talking, dawdling, hanging around the store, or disputing on politics in the tavern, as would make them, if differently employed "healthy, wealthy and wise." Thus brought up and trained, when they arrive at years of discretion, they fancy that it is impossible for them to do more than they now accomplish; reading is neglected, because *"they have no time;"* improvements are not made; flowers are not planted; rubbish round the house is not cleared away; the fences and outhouses are not whitewashed, but left, and surely as they are, to rot the faster; neatness and prettiness are unknown, because *"they have not time;"* and their sons and daughters, finding nothing to bind their hearts to home, wander away, the one to California, the other to the dry good store and the scandal mengei's.—Whereas, if such persons kept a journal of the minutes actually employed, and those which are wasted, they would be surprised to find how much time they had in which to do every thing they now neglect, and much more besides.—How often is it that the minister's usefulness is curtailed, and his salary unpaid, and the church in ruin; the school house, and the school inefficient and badly conducted for want of a like activity on the part of people; and yet all the blame falls on the shoulders of "want of time."

We remember an anecdote of a celebrated Frenchman, previous to the first Revolution, to the point. He was employed in an arduous and absorbing government office, which kept him busy from morning till late at night. He married and found that his wife persisted in being habitually ten minutes too late in coming to dinner. He determined to write a book; fixed on the subject, thought of it during his walk to and from home, wrote during these ten minutes every day, and *no longer*; and in the course of a couple of years published one of the most able works of the age. Most men would have lounged about, got out of temper, spoilt their own and their wife's dinner by fretting; and instead of doing the world a service, they would only have done themselves and others harm. Let a man but try. Let him accomplish what he has to do as fast as possible; if he goes to the store or the mill, let him at once do his errand, and away home; let him always have on hand something in prospect, some light or sedentary occupation, and he will not only find himself far happier, but also far more prosperons. As a stranger passes his door, and sees his neat and clean foreyard, and blooming flowers, he cannot help remarking that an industrious, tasteful man lives there; and if he stops to talk to him, he will find that he has imbibed the written wisdom of others, instead of lounging at the tavern to drink in liquid poison, or pestiferous smoke, vapors. and profanity. In the words of Dr. Clark, the celebrated Methodist commentator on the Bible, "Buy up these moments which others seem to throw away; steadily improve each present moment, that you may in some measure gain the time you have lost. Let time be your chief commodity, deal in that alone, buy it all up, and use every portion of it yourselves."

But we began by talking of *trifles*. Hens are a blessing and almost a necessary of life on a farm. It is proved that in Boston each hen eats one dollar's worth of grain a year. How much does the farmer lose by letting 50 hens feed on his unthrashed grain, in his barn; on his grain in the field; on his garden; and his meadow for a year? How much time is expended in driving them here and there? Each hen's daily dinner is a *trifle*, but in a year their waste and eating would build a very comfortable hen yard, and go far to pay for their food—while loss of eggs, and loss of temper are included in the bargain. The next year it is all yours.

Threshing by machinery is dear for a small farmer. He would rather thrash with horses.—A rat is a small thing, but it has a big appetite and a numerous family. How many days' labor might be paid for out of the rats'and mice's waste, and the horses eating during thrashing in the 3 months the grain lies in the barn? Three or four yards are not far to walk; how many miles would a man walk in a week, in loading manure, who allowed his wagon to be thus far from the heap? A broken or fallen rail or two, out of thousands on the farm seems a trifle. How many rails might be split and laid up for the damage done by a drove of hogs, or a herd of breachy cattle getting into the big corn field; and the long run after them?

Twenty or thirty rods from the horse and cattle stables to the watering place are easily passed over; but no one will deny that in two or three years, at least, the time spent in driving or leading the animals to water and back, would well pay for a water ram, a well, or a pump connecting with the stream: not to mention the carrying water in cold and slippery weather for the fattening hogs; and to the house for washing and "doing the chores." In throwing the hay on the ground for feeding, perhaps not more than a half hundred weight a day is lost; whereas in proper racks none would be used but what was eaten.—How many tons at $7 does it cost a farmer in 10 years? besides the entire loss of manure, and the soiling of the yard or lane; and the fighting and damage when cattle are thus fed. We are inclined to believe that a very handsome set of sheds would cost less; and the cattle prove fatter on half the food. But we have said enough to show the vital importance of these sadly neglected *trifles*—TRIFLES the very mention of which might fill a volume—which have emptied the pockets, and proved a millstone around the neck of thousands of farmers.—C. F.

☞ Our friend, Mr. E. M. Stickney, of Pine Lake, is informed that the seed of the Lucerne can be had at Parker's for two shillings a pound. —C. B.

ACKNOWLEDGMENTS.

Communications have been received from Dr. Kennicut, Grove Nursery, Ill., Wm. Dougherty, S. Johnson, Valerie Valencie, A. Pedagogue.

We have received from the Publishers, Fowlers & Wells, 131 Nassau street, N. Y., their three standard periodical works, viz: *American Phrenological Journal, Water Cure Journal, and the Student.*

These are all excellent works,and we sincerely commend them to our readers. The former is devoted to the subjects of Phrenology, Physiology, Literature, &c.; the Water Cure Journal advocates the cure of diseases and all the ills that flesh is heir to, by the use of water; and we believe that whoever takes this Journal, will *not* take much medicine.

The Student should find its way to every family. It is filled with serious, substantial matter for old, middle aged and youth. Terms of each $1,00 a year in advance. Fowlers & Wells, as above.

Also, from the same spirited and excellent Publishers, No. 3, of the "*Hydropathic Encyclopedia.*" The work is issued in eight numbers of 100 or more pages each. "The object is to bring together, in a most condensed and practical form all the facts and principles in medicine and the collateral sciences,pertaining to the Philosophy of Life and Health, and the Water Cure treatment of Diseases; designed as a guide to students and families. Price of the entire work is Two dollars.

Nursery of J. C. Holmes.—Receiving a friendly invitation from Mr. Holmes, we paid a visit to his nursery a short time since, and felt well rewarded for an hour spent in viewing his grounds His collection embraces the most useful varieties of Apples, pears, peaches, cherries, grapes, strawberries, &c., and of ornamentals he has quite a variety of evergreens, mountain-ash, horse-chesnut, pawlonia, various shrubs, and a great many kinds of roses, dahlias and other flowers.

The chief attraction however, was his dwarf pear trees, a large number of which were loaded with fruit, and not higher than my shoulders. We believe contrary to our previously expressed opinion, that this is the most profitable mode of growing most kinds of Pears. There are some kinds which do not do well on the quince, while others do far better on it than on the pear stock. Mr. H. informed us that he had known dwarf pear trees to grow and produce well for thirty years. There are a great many other things which we saw and would like to speak of, if we had room. Mr. H. has taken much pains to have his trees labeled correctly, so that he knows what he sells.—C. B.

STATE FAIR.

Our annual jubilee is over. Our State Agricultural Society has reached a point from which there can now be no retrograde, and there are no grounds for fears as to its continued permanent existence.

There was not, all things considered, one single untoward occurrence to dampen the spirits of those who had made up their minds to attend, or to repel the outgushings of the kindliest feelings there, and through the whole time all things passed off well,

The morning of the third day was rather unpleasant on account of the rain; but now as all are again at home, and as there was much need of rain, there can be no regret that it came.

The show of Cattle and Sheep was splendid—there were some of these animals on the ground which cannot be surpassed in any part of the country. But of these and many other things we shall speak more at length next month for our columns are now full.

Gen. Cass' address was listensd to by the thousands congregated around the stand—which was over the entrance to Floral Hall—with the most profound nttention, giving evidence of the absorbing interest felt in the subject, as well as of the high regard so justly due the eminedt speaker.

We have no way of determining the number of persons present but every public house in the city was filled to overflowing, and a great many were accommodated at private houses.

On the second day of the Fair, from early morn till sundown, the streets from the city to the grounds, and for miles out, were crowded with teams and footmen, and all day long the buildings containing the articles on exhibition, were one solid mass of men, women and children.

We are obliged to defer any further notice.—C. B.

RECEIPTS for the Michigan Farmer, from August 29, to Sept. 27, 1851:

A Davis $1; C N Beecher P M 1; D Bates P M 1; W Wilson 1; T Pope 75c; D C Waterman 2; Rev R Friggs 1; D Stubble 2; W T V Pattison P M 1; E Barrows 2; J R Martin 1; M R Fletcher 1; J Weston 1; B E Holmes 11,43; J Tucker P M 1; H Wheeler 1; T W Hewett 1; G C Holmes P M 1; J D Chubb 1; L Fitch P M 2; L C Call 1; A Wilbur 1; W Miller 2,40; J M Jameson 1; W W Tompkins ass't P M 50; S O Hammond 1; J Gardner 2; J B Comstock 75c; C L Luce P M 1; M Porter 3; J B Bloss 2; S D W Dowell 1; G H Lyon 4 50; H Wakeman 1; H Haynes 1, J S Tibbets 75; R Hodges 1; S D Wilson 1; A Clark 1; C W Hewett 2; S B Williams 1; J Nichols 4; S Cox 1 25; O Jones 2; F R Burrall 1; V Booth 1, J Ketchum 1; J Whitman 1; H Elliott 75c; J Scott 1; C Ferganon 1 75; O Nichols 1; A Mather 1; J W Wheaton 1; Judge Steeper 2; J Bager 1; R A Carman 1; L H Halleck 2; C B Edwards 1; S A Randall 1; C Balch 1; D Murray 1; G Drake 1; J Sinclair 1; M Joy 1; J L Hartsuff 3; W Bowers 1; E N Fairchild 1; A Mae 2; C Ingalls 1; J B Comstock 75c; H N Howard 2; S Millard 1

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Detroit Prices Current:

Herd's Grass..℔ bu.	$2 00	Salt.....bbl	$ 1 16
Flax.....℔ "	1 50	Butter.....lb	10
Lime.....℔ bbl	75	Eggs.....doz	10
Flour..... "	3 30	Hides..dry ...lb	8½
Corn.....℔ bu	40	Wheat .....bu	62
Oats..... "	25	Hams.....lb	9
Rye.....	40	Onions.....bu	70
Barley.....	93	Cranberries....	1 12
Hogs.....℔ 001 lb	4 62	Buckwheat...℔ 100 lb	1 25
Apples.....℔ bu	50	Indian Meal... "	1 00
Potatoes.....	50	Beef..... "	4 50@5 00
Hay.....ton	6 00	Lard....℔ lb (retail)	9
Wool.....lb	18@40	Honey.....	10
Peas.....bu	1 00	Apples, dried..bu	1 00
Beans.....	1 00	Peaches,..".....	2 50
Beef.....bbl	8@8 50	Clover seed....	5 50
Pork, mess.... ---@	15 00	Pine lumber, clear,	20 00℔ Mft
White Fish....	6 50	" 2d "	15 00 "
Trout.....	6 00	Bill lumber....	11 00 "
Codfish.....lb	4	Flooring.....	12 00
Cheese.....	6½	Common.....	10 00
Wood.....cord	1 75@2 25	Lath	2 00

☞ TO PERSONS OUT OF EMPLOYMENT.☜

AMERICAN GIFT BOOKS FOR 1852.

To Clergymen, Postmasters, Teachers of Sabbath Schools, Book Agents, Students, and Heads of Families—Employment.

SEARS' American Pictorial Book Establishment removed to 181 William St., (near Spruce,) New York.

Book Agents Wanted.

The subscriber publishes a large number of valuable books, very popular, and of such a moral and religious influence, that while good men may safely engage in their circulation, they will confer a *public* benefit, and receive a *fair compensation* for their labor.

☞To young men of enterprise and tact, this business offers an opportunity for profitable employment seldom to be met with. There is not a town in the Union where a right honest and well-disposed person can fail selling from 50 to 200 volumes according to population.

Just Published,

"*Pictorial Description of China and India*," 600 pp., and "*Thrilling Incidents of the Wars of the United States*," 600 pp. Retail price, $2,50 per vol.

Our Publications are too numerous to be described in an advertisement.

☞ Any person wishing to embark in the enterprise, will risk little by sending to the Publisher $25, for which he will receive sample copies of the various works, [at wholesale prices,] carefully boxed, insured, and directed, affording a very liberal percentage to the Agent for his trouble. With these he will soon be able to ascertain the most saleable, and order accordingly.

☞ Persons wishing to engage in their sale, will receive promptly by mail, a circular containing full particulars, with "DIRECTIONS TO PERSONS DISPOSED TO ACT AS AGENTS," together with the terms on which they will be furnished, by addressing the subscriber, post-paid,

ROBERT SEARS, Publisher,
Oct.-tf. 181 William street, New York.

DETROIT SEED STORE

And Agricultural Warehouse!

GARDEN, FIELD, AND FLOWER SEEDS,

IMPORTED Flower Roots, Agricultural Implements and Machines, Starbuck's Troy Plow, Ruggles Nourse & Mason's Eagle Plow, and Wisconsin Plow, Gram's fanning mills, Riche's straw-cutters, corn-planter and sub-drill, washing machines, corn shellers, cultivators, thermometer churns, &c. &c.

..ALSO..

Agents for the sale of Wheeler's Patent Improved Portable Rail Road Horse Power and Over-shot Threshers and Separators.

F F PARKER & BROTHER,
my1 81 Woodward Avenue.

SMITH'S Patent Ventilating Smut Machine—Also, Mott's Agricultural Furnace, for sale by

D. O. & W. S. PENFIELD.

Detroit, June 1, 1850.

Windsor Nursery.

(Formerly Rosebank.)

Near the Ferry Landing, opposite Detroit.

The subscriber has removed his nursery to Windsor, where he has on hand a large stock of the various kinds of *Fruit* and *Ornamental Trees*, and *Shrubs* as well as *Bulbous roots* and *Herbaceous Plants*.

The stock of Fruit Trees is very thrifty and comprises all the desirable varieties of *Apples*, *Pears*, both standard and dwarf. Of the latter he has an extra fine stock of all the varieties that succeed on the Quince, *Plums*, *Cherries*, standard, and dwarf on Mahaleb stocks. *Peaches*, one and two years from bud extra, *Nectarines*, *Apricots*, *Gooseberries*, *Currants*, *Raspberries*, *Strawberries*, *Mulberries*, *Almonds*, *Filberts*, *Chesnuts*, &c.

Orders addressed JAMES DOUGALL, [Windsor] Detroit, or left at Mr. Clay's store, Jefferson avenue, will be carefully and punctually attended to, and the trees packed so as to carry safely to any distance.

Windsor, C. W., Sept 1. JAMES DOUGALL.

Detroit Nursery.

THE Autumn being a good time for transplanting most kinds of fruit trees, the subscriber would call the attention of purchasers to his extensive and choice stock of fruit and ornamental trees, shrubbery, &c.

We have upwards of fifty varieties of dwarf Pear trees now in bearing and would invite persons visiting the city to call and examine them.

Purchasers will do well to call and examine our stock of trees, as they are healthy and vigorous, and we can supply nearly all the choice and leading varieties of Apple, Pear, Peach and Cherry. Our Pear trees, both dwarf and standard, are now making strong and rapid growth, and are entirely free from blight. Many of the dwarfs are in bearing. We have over five thousand very fine Peach trees, one and two years from the bud; also Grapes, Currants, Raspberries, Gooseberries, Strawberries, &c.

We are now preparing a descriptive catalogue of the Fruits we have under cultivation, which will be ready for delivery, free of charge, to post-paid applicants, in the course of the winter.

The nursery is situated on the Chicago road, one mile from the City Hall. J. C. HOLMES.

Detroit, Sept. 1st., 1851, sept. tf

Dorking Fowls.

The subscriber has for sale some fine spring chickens of his celebrated breed of Speckled Dorkings, warranted pure and now ready for delivery.

They will be cooped and delivered in, or forwarded from Detroit in any manner directed for $3 per pair. Orders by mail with remittances addressed JAMES DOUGALL, (Windsor, Detroit, or left at Mr. Clay's store, Jefferson avenue, will be promptly attended to.

JAMES DOUGALL.

Windsor, C. W., opposite Detroit.
Sept. 1. 1851. 2t.

AGRICULTURAL IMPLEMENTS.

A Large and increasing variety constantly on hand, at MANUFACTURERS prices, adding transportation, among which are the following:

Starbuck's Premium Plows, 8 sizes,	$4	to	$18 00
Ruggles, Nourse, Mason & Co., do	3	to	14 00
Emery & Co.,	3	to	14 00

Emery & Co's Improved Railroad Horse Powers and Over-Shot Threshing Machines and Separators, one horse $145, two horse $170

Wheeler's do. $140 to $165.

Smith's New Improved Ventilating Smut Machine and Buck wheat Scourer, $40 to $200.

Straw Cutters, from $6 to $17. Corn Shellers, from $8 to $20. Emery's Corn Planter and Seed Drill, $15. Vegetable cutters, $13; Folding Harrows, 8 to $20; corn and wheat cultivators, 5 to $9; fanning mills; cast iron dirt scrapers, 4 to $7; grind stones with rollers, 2 to $10; churns, 1 50 to $6; agricultural furnaces, 10 to $30; cheese presses; hydraulic rams, 10 to $30; wheel-barrows, 4 to $6; well and cistern pumps, 3 to $10; wheat drills; bush hooks and scythes, 1 50; Bog hoes, $2; pruning knives, $2; pruning saw and chisels, $2; post spoons, $1; screw wrench, 1 50 to $5; Trucks, &c. &c., 3 to $10.

Also, hay, straw, and dung forks, potato hooks, hoes, shovels, spades, grain cradles, scythes, rakes, hay knives, chains, plow points, &c. &c.—all for sale cheap for cash.

D. O. & W. S. PENFIELD,
Ja 87 Woodward avenue.

ONE PRICE ONLY!

1851.] Spring and Summer. [1851.

CLOTHING AT WHOLESALE & RETAIL.

At the well known establishment of the subscribers, corner of Jefferson and Woodward avenues, may be found a very large assortment of Clothing, comprising every quality and description of garments, which for style, durability and economy, cannot be excelled. FARMERS and MECHANICS may here procure substantial and economical garments; and as *no deviation in price* is practiced, they can rely upon purchasing goods, in all cases, at the lowest possible rates. Under this system the inexperienced can buy as low as the most expert and practiced buyer. Also on hand

BOYS' AND CHILDREN'S CLOTHING,

in great variety, India rubber and oiled clothing, TRUNKS and CARPET BAGS, under garments, cravats, stocks, &c. &c.

Cloths, cassimeres and vestings, always on hand, and made up to order in the best manner. HALLOCK & RAYMOND

March 9, 1851. aprly

Paper Warehouse.

THE undersigned has opened an extensive Paper Warehouse, on Jefferson Avenue, Detroit, for the exclusive sale of all kinds of paper, where a general assortment can be found at all times. The attention of country dealers is respectfully invited, before purchasing elsewhere. Cash paid for rags. J. B. CLARK

Detroit, Feb. 19, 1851. marly

KELLS' PREMIUM HORSE POWERS

And Threshing Machines.

THE New York State Agricultural Society, at their last Fair, awarded to the Horse Powers manufactured by the subscriber at the city of Hudson, the

First Premium.

They having been presented for competition by Messrs. Emery & Co. of Albany, who within nine months past have sold over 125 of these Powers.

The attention of Farmers throughout the country is therefore solicited to the Rail Way Horse Powers and Over Shot Threshing Machines with the Vibrating Separators as now manufactured by the subscriber,

Philip H. Kells,

Who is the first and original inventor of the present improved mode of constructing these Powers, and who has been constantly engaged in the manufacture and sale of Horse Powers, Threshing Machines, &c., for the last ten years. On this account, with his facilities for carrying on the business, and his knowledge of the wants of the Farmers of this country, he is satisfied he does and can execute this kind of work in a manner not to be excelled by any manufacturer in this country.

For the details of my mode of constructing the Rail-Way Horse Powers reference may be had to the advertisements and illustrations published by Messrs. Emery & Co. of Albany, in the Cultivator since June, 1850, at which time I commenced manufacturing for them.

All persons wishing to purchase Horse Powers or Threshing Machines of the latest and most approved construction are requested to call on, or forward their orders to the subscriber at his manufactory in State street, Hudson, or at Griffith's Long Wharf, Buffalo, N. Y.

Price of Machines.

For Two Horse Machines.....$145 00
For One.....$120 00

Machines will be shipped to any part of the United States or the Canadas, ☞ *and warranted to give satisfaction to the purchaser, or may be returned within sixty days.*

jetoct PHILIP H. KELLS.

Back Volumes of the Farmer.

A few copies of the 6th, 7th, and 8th volumes of the Mich. Farmer, pamphlet bound and in boards, for sale at our bookstore. C. MORSE & SON

Detroit, Feb. 1st, 1851. marlf

J. G. DARBY,

ENGRAVER.

No. 154 Jefferson Avenue, (2d Story,) Detroit.

MAPS, Visiting and Business Cards, Portraits, Bills of Exchange, Wood Cuts, &c.

—ALSO—

Door Plates, Silver Ware, &c., elegantly engraved.

Detroit, January 1st, 1850.

EAGLE & ELLIOTT,

DEALERS IN

CLOTHING.

Wholesale and for the Million!

KEEP constantly on hand as large a stock of Ready Made Clothing as may be found west of New York. Being of Philadelphia manufacture, and well suited for this market, they are prepared to sell at low prices, at wholesale or in quantities to suit purchasers. They beg leave to call attention to their

New Cloth Ware Room, second story.

French, Belgian, English, and American Cloths; cassimeres and trimmings, serges, satins and vestings, making the best assorted stock of these goods to be found west of Buffalo; for sale wholesale or made to order, at their

Custom Department,

where every satisfaction as to fit, style, &c., is warranted, and at reasonable prices. EAGLE & ELLIOTT,

61 Woodward avenue, nearly opposite Presbyterian church, Detroit. jan

MICHIGAN BOOKSTORE.

THE SUBSCRIBERS having rented the new and commodious store adjoining the Young Men's Hall, on Jefferson avenue, are now opening one of the largest stocks of

BOOKS & STATIONERY,

To be found west of New York. Their assortment includes LAW, MEDICAL, THEOLOGICAL, MISCELLANEOUS, CLASSICAL, and SCHOOL BOOKS. All of which are offered to the public, wholesale or retail, at prices much lower than heretofore. They also carry on the Book Binding business, and are prepared to manufacture to order, County and Town Record Books, Merchants' Ledgers, Journals, Day Books and other kinds of Blank Work generally, of the best materials and workmanship. Pamphlets, Magazines, &c., bound with neatness and dispatch. A share of public patronage is respectfully solicited.

Detroit, Jan 1, 1851. jan C. MORSE & SON.

T. H. ARMSTRONG,

Manufacturer of and Dealer in

SUPERIOR HATS AND CAPS,

No. 58, Woodward Avenue,

(Between the Presbyterian Church, and Jefferson Avenue, Sign of Big Hat, Detroit.

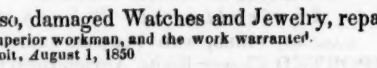
ALSO, Dealer in Furs, Robes, Muffs, Umbrellas, Canes, Gloves, Scarf, Cravats, Suspenders Buckskin Gloves, &c., very cheap for cash.

Would respectfully solicit the patronage of Farmers and others coming into the city, pledging himself to sell as cheap as any ther establishment east of New York.

His stock of Hats and Caps are of his own manufacture and warranted the best.

☞ Orders for any style of Hat or Cap promptly attended to.

CHARLES PIQUETTE,



MANUFACTURER OF

SUPERIOR DIAMOND POINTED

GOLD PENS.

DAMAGED PENS RE-POINTED.

Also, damaged Watches and Jewelry, repaired by a superior workman, and the work warranted.

Detroit, August 1, 1850

TERMS.--The MICHIGAN FARMER is published monthly, at Detroit, Mich., for one dollar a year, in advance; after three months, $1,25; after six months, $1,50; after nine months, $1,75. No subscription taken for less than one year, nor discontinued till all arrearages are paid.—To clubs, five copies for four dollars, twelve copies for nine dollars, and any greater number at the same rate.

Advertising, for one folio, or one hundred words, first insertion one dollar and fifty cents—twelve dollars per annum.

☞Office next door to Markham's Book Store, opposite Maj. Kearsley—entrance same as that of the Daily Advertiser.